# Volume II

# Appendix O Blue Flint Ethanol Plant Lateral Aquatic Resource Delineation Report

# BLUE FLINT ETHANOL PLANT LATERAL

**Aquatic Resource Delineation Report** 



Prepared For: WBI Energy Transmission, Inc.



# **Executive Summary**

WBI Energy Transmission, Inc. (WBI) are proposing construction of approximately 10 miles of 8-inch lateral pipeline from its existing Line Section 7 main line to Midwest AgEnergy's Blue Flint ethanol plant. The purpose of the project is to provide natural gas service to the ethanol plant so it can convert from coal to natural gas power generation.

WBI contracted Beaver Creek, Inc. to conduct an aquatic resources inventory for the Project. Luke Toso and Aidan Goblirsch, conducted the aquatic resource delineation according to standards set forth in the US Army Corps of Engineers (USACE) 1987 Wetland Delineation Manual, the 2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region, and the 2008 Field Guide to the Identification of the Ordinary High-Water Mark (OHWM) in the Arid West Region of the United States. A summary of the delineation is as follows:

- The total survey area was 463 acres, centered at 47.371019, -101.052425.
- Field surveys revealed 18 aquatic resources (delineated in 25 parts) in the survey area. Most of these features were isolated prairie pothole wetlands within agricultural fields.
- Upland observations were made in 14 areas. These areas were investigated since they appeared to be potential wetlands based on the desktop assessment, but the field investigations showed these areas to be upland.



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# **Chapter 1. Introduction**

WBI Energy Transmission, Inc. (WBI) is proposing to construct approximately 10 miles of 8-inch lateral pipeline from its existing Line Section 7 main line to Midwest AgEnergy's Blue Flint ethanol plant. The purpose of the project is to provide natural gas service to the ethanol plant so it can convert from coal to natural gas power generation. The Project is defined as the construction and operation of the proposed pipeline, and the Project area is defined as the area needed to construct the Project. The Project would be under the jurisdiction of the Federal Energy Regulatory Commission (FERC).

WBI contracted Beaver Creek, Inc. to conduct an aquatic resources inventory for the Project. The survey area is defined as the 463-acres where construction activities are planned. The purpose of this report is to identify and describe aquatic resources and to identify known possible sensitive plant, fish, wildlife species, and cultural/historic properties in the survey area. This report facilitates efforts to:

- 1. Avoid or minimize impacts to aquatic resources during the design process.
- 2. Document aquatic resource boundary determinations for review by regulatory authorities.
- 3. Provide early indications of known sensitive species and historic/cultural properties within the survey area.
- 4. Provide background information.
- 5. Avoid or minimize impacts to aquatic resources during the design process.
- 6. Document aquatic resource boundary determinations for review by regulatory authorities.
- 7. Provide early indications of known sensitive species and historic/cultural properties within the survey area.

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# **Chapter 2. Location**

The Project is in McLean County, North Dakota approximately 8 miles north of Washburn, North Dakota. Directions to the survey areas are provided in Appendix B. The project is centered 47.371019, -101.052425 and the survey area is in the following sections:

- Portions of Section 16, 19, 20, 21, 22, 23 Township 145 North, Range 81 West.
- Portions of Section 14, 13, 15, 17, 18, 20, 21, 22, 23, 24 Township 145 North, Range 82 West.

# Chapter 3. Methods

Prior to field surveys, a desktop assessment was conducted to evaluate potential wetland sites in the survey area. Aerial images and US Geological Survey (USGS) topographic maps were evaluated to determine land use and topographic relief. The USGS topographic maps used were Washburn SW, Washburn, and Turtle Creek SW 7.5" quadrangles. The National Wetland Inventory (NWI) and soil survey maps were also used to determine if wetlands may be present.



The aquatic resource field delineation was conducted on May 5, May 6, and August 6, 2021 by Luke Toso and Aidan Goblirsch according to routine on-site methodology in the 1987 US Army Corps of Engineers Wetland Delineation Manual, the 2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region, and the 2008 Field Guide to the Identification of the Ordinary High-Water Mark (OHWM) in the Arid West Region of the United States. Delineations were conducted by evaluating potential wetlands through investigating vegetation, soils, and hydrology indicators at paired upland and wetland transect points. Potential streams or other waters were determined by evaluating the ordinary high-water mark (OHWM). Areas that appeared to be wetlands or drainageways on aerial images were also documented to show actual field conditions.

Vegetation was identified and quantified at each transect point. Wetland indicator status was assigned to each species according to the *National Wetland Plants List, Great Plains Region* (Lichvar 2016). Plant scientific names are used according to the US Department of Agriculture, Natural Resources Conservation Service (NRCS) Plants Database (USDA, NRCS 2020). Hydrophytic wetland vegetation criteria are met when 50% or more of the dominant species within each vegetation strata were obligate (OBL), facultative wet (FACW) or facultative (FAC) wetland status. Percent cover was estimated using previous years growth material.

Hydric soils were determined by using the NRCS *Field Indicators of Hydric Soils in the United States*, *Version 8.2* (NRCS 2018). Soils were evaluated by excavating soil pits at each sample point. The depth of each pit varied depending if hydric soil indicators were present.

Wetland hydrology was determined through observation of primary or secondary indicators. A single primary indicator (e.g. surface water) or two secondary indicators (e.g. soil surface cracks or geomorphic position) are needed to conclude that wetland hydrology is present. Due to drought conditions throughout the project area, hydrology indicators were carefully evaluated to ensure aquatic resources were accurately delineated.

Streams or other waters (i.e. ditches) were delineated differently than wetlands by mapping the OHWM. The OHWM is defined as "[T]he line on the shore established by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area" (84 FR 4154).

# **Chapter 4. Existing Conditions**

### 4.1 Landscape Setting

At the landscape scale, the survey area is within the Missouri Plateau ecoregion of North Dakota (Bryce et al. 1996). This landscape contains gently rolling to flat topography with prairie pothole wetland depressions with few integrated stream systems. Most waterways in this ecoregion flow into the Missouri River via streams flowing generally west or south. The Project is within the Painted Woods-Square Butte watershed (Hydrologic Unit Code [HUC] 10130101), the Coal Lake Coulee-Missouri River subbasin (HUC 1011020506), and two subwatersheds: the Buffalo Creek (HUC 101301010703) and Weller Slough-Coal Lake Coulee (HUC 101301010701).



Most of the Project was surveyed on May 5 and 6, 2021, with follow up surveys conducted on August 6, 2021. While the first surveys were conducted early in the growing season, it was still possible to precisely identify and quantity the percent cover of vegetation within wetlands using past seasons material, if natural vegetation was present. If natural vegetation was not present due to agricultural activities, changes in soils and topography were used to map wetland boundaries.

Drought conditions were prevalent throughout this part of North Dakota, and water levels in wetlands appeared lower than typical for this time of year. Delineators used a conservative approach to delineate aquatic resources, by assuming a greater wetland boundary than field conditions indicated. Historic aerial images were also referenced to cross reference typical conditions.

The survey area is high in the landscape and used primarily for agricultural purposes. Some native habitats were present near the western portion of the survey area. Most precipitation falling in the survey area appears to pond in isolated wetland depressions or prairie potholes. However, two intermittent stream systems are present, one which eventually turns into Coal Creek Coulee (Wetland 13a,b,c) and another named Buffalo Creek (Wetland 6 and 7). Both flow south and are tributaries to the Missouri River.

### 4.2 Desktop Assessment

The desktop review showed numerous prairie pothole wetlands throughout the survey area. These pothole wetlands were shown primarily on aerial images and NWI maps. Two stream systems were shown on USGS Topographic Maps, one unnamed stream which turns into Coal Creek Coulee south of the survey area, and the other named stream Buffalo Creek. Soil maps indicated hydric soils in depression associated with some NWI wetlands.

### 4.3 Field Survey Results

Field surveys revealed 18 aquatic resources (delineated in 25 parts) in the survey area. The narrative description below divides these resources into six different categories. These categories were based on shared characteristics used to delineate similar features.

Another 14 areas were evaluated in the field because they appeared to be potential wetlands based on the desktop assessment. However, field investigations revealed these areas to be uplands. These upland observation points are divided into four categories based on shared haracteristics.

### 4.4 Aquatic Resources

### Wetland 1, 2, 3, 4, 8, 12, 14, 17 and 18: Prairie Pothole Wetlands

Most aquatic resources within the survey area were prairie pothole wetlands within agricultural crop fields. These features included Wetland 1, 2, 3, 4, 8, 12, 14, 17 and 18. All of these features appeared be hydrologically isolated. Since natural vegetation was absent due to agricultural activities, these features were delineated by using hydric soil boundaries as they coincided with changes in topography. Typical soil profiles in wetlands were dark at the soil surface with redoximorphic concentrations, which met the Redox Dark Surface (F6) hydric soil indicator.



Some other wetlands contained thick topsoil horizons over depleted subsoil with redoximorphic concentrations, meeting either the Depleted Below Dark Surface (A11) or Thick Dark Surface (A12) hydric soil indicators. Typical wetland hydrology indicators were Geomorphic Position (D2) and Saturation Visible on Aerial Imagery (C9). These features do not appear to support aquatic wildlife that would support interstate or foreign commerce or support industries operating interstate or foreign commerce.

### Wetland 5: Open Water Lake

Wetland 5 was an open water lake. This feature was delineated by walking the distinct bank between the lake and uplands dominated by smooth brome; hydrophytic vegetation was absent likely due to wave scour and erosion. Soils met the Loamy Gleyed Matrix (F2) hydric soil indicators. Wetland hydrology indicators included Surface Water (A1) of 12+ inches. This feature may support aquatic wildlife that would support interstate or foreign commerce or support industries operating interstate or foreign commerce.

### Wetland 6 and 7: Vegetated Emergent Wetland Drainageways

Buffalo Creek, aka Wetlands 6 and 7, were vegetated emergent wetland drainageways. These features were delineated by mapping the boundary between upland vegetation, including smooth brome (*Bromus inermis*, UPL) and quackgrass (*Elymus repens*, FACU), and hydrophytic vegetation, including reed canary grass (*Phalaris arundinacea*, FACW) and cattail (*Typha latifolia*, OBL). Soils in the wetlands were dark at the soil surface with redoximorphic concentrations, which met the Redox Dark Surface (F6) hydric soil indicator. Wetland hydrology indicators were Surface Water (A1) with a depth of 6-12+ inches, Saturation (A3) with a depth of 0 inches, and a High Water Table (A2) at a depth of 6 inches. These features may support aquatic wildlife that would support interstate or foreign commerce or support industries operating interstate or foreign commerce.

### Wetland 9: Unvegetated Wetland Drainageways

Wetland 9 appeared to be an unvegetated wetland drainageway, which may have been excavated to assist with drainage in an agricultural field. This feature was delineated by using hydric soil boundaries as they coincided with changes in topography, since natural vegetation was absent. Soils in the wetland were dark at the soil surface with redoximorphic concentrations which met the Redox Dark Surface (F6) hydric soil indicator. Wetland hydrology indicators were Surface Soil Cracks (B6) and Geomorphic Position (D2). This feature does not appear to support aquatic wildlife that would support interstate or foreign commerce or support industries operating interstate or foreign commerce.

### Wetland 10: Isolated Ditch Wetland

Wetland 10 appeared to be an isolated ditch wetland. This feature was delineated by mapping the boundary between upland vegetation, including smooth brome (UPL), and hydrophytic vegetation, including reed canary grass (FACW) and prairie cordgrass (FACW). Wetland hydrology indicators that were met included Sparsely Vegetated Concave Surface (B8), Geomorphic Position (D2), and FAC-Neutral Test (D5). No soil pits were excavated at this wetland due to the presence of a railroad rock spoil, although soils are assumed to be hydric based on the presence of hydrophytic vegetation and wetland hydrology indicators. This feature does not appear to support aquatic wildlife that would support interstate or foreign commerce or support industries operating interstate or foreign commerce.



### Wetland 11 (a, b, c, d), 13 (a, b, c), and 15: Vegetated Emergent Wetland Depressions

Wetlands 11 (a, b, c, d), 13 (a, b, c) and 15 appeared to be vegetated emergent wetland depressions. These features were delineated by mapping the boundary between upland vegetation, including western wheatgrass (*Pascopyrum smithii*, FACU), smooth brome (UPL), and quackgrass (FACU), and hydrophytic vegetation, including inland saltgrass (*Distichlis spicata*, FACW), prairie cordgrass (*Spartina pectinata*, FACW), and cattail (OBL). The majority of the soils in the wetlands were dark at the surface with redoximorphic concentrations which met the Redox Dark Surface (F6) hydric soil indicator. The other soils that were present in the wetlands met the Depleted Below Dark Surface (A11) hydric soil indicator. Typical wetland hydrology indicators included Salt Crust (B11), Saturation (A3) with a depth of 0 inches, Geomorphic Position (D2), and FAC-Neutral Test (D5). These features may support aquatic wildlife that would support interstate or foreign commerce or support industries operating interstate or foreign commerce.

### Other Water 16a, b, c: Stormwater Ditches

Other Water 16 (a, b, c) were stormwater ditches present at the existing Blue Flint Ethanol Plant. They were mapped by walking the boundary between either bare ground or prairie cordgrass (FACW) and smooth brome (UPL). Soil pits were not excavated due to numerous buried utilities in the area. This feature appears to drain to the west. It does not appear to support aquatic wildlife that would support interstate or foreign commerce or support industries operating interstate or foreign commerce.

### 4.5 Upland Observation Points

### Upland 1, 2, 3, 11: Upland Drainageways

Uplands 1, 2, and 3 were within drainageways that appeared on aerial images to be stream channels. However, field investigation revealed upland conditions. If these features were vegetated (Upland 1, 3, 11), vegetation consisted mostly of smooth brome (UPL) or quackgrass (FACU). Soil indicator were often bright (10YR 4/3) under a dark topsoil layer, which does not meet hydric soil indicators. These features also lacked a distinct stream channel. Based on the dominance of upland vegetation or lack of hydric soil indicators, combined with the lack of a distinct channel, these areas were determined to be uplands.

### Upland 4, 5, 6, 9, 10, 12, 13, and 14: Upland NWI Points

Uplands 4, 5, 6, 9, 10, 13, and 14 were shown as NWI polygons on the desktop assessment, but upon field observations, they were determined to be uplands. Soils were often too bright (10YR 4/3) to meet hydric soil indicators. These features often lacked the concave surface or general topographic relief needed to pond water. These areas were determined to be upland due to the lack of hydric soil indicators and lack of topographic relief needed to pond or transmit water.

### **Upland 8: Upland Depression**

Upland 8 was within a depression that appeared saturated on aerial images. Soils were bright (10YR 5/3) and did not meet hydric soil indicators. It appeared that this area may have been ditched or drained. Since hydric soil indicators were absent, this area was assumed to be upland.



## **Upland 7: Historic Homestead**

Upland 7 was a historic homestead with green ash (*Fraxinus pennsylvanica*, FACU) and box elder (*Acer negundo*, FAC) tree rows. Smooth brome (UPL) was dominant in the understory. An observation point was made here to confirm upland conditions.



**Table 1. Wetland Table** 

Wetland Number	Test Hole (within wetland)	Location	LONG West (Dec. Deg.)	LAT North (Dec. Deg.)	Field Cowardin Classification	Wetland Type	Wetland Size (acres)	Wetland Feature
Wetland 1	1w	Sec.22, T145N, R81W	47.363984	-100.973978	PEM1C	Depression	0.076	Natural
Wetland 2	2w	Sec.22, T145N, R81W	47.367480	-100.983631	PEM1C	Depression	0.418	Natural
Wetland 3	3w	Sec.22, T145N, R81W	47.370999	-100.989829	PEM1C	Depression	0.254	Natural
Wetland 4	4w	Sec.21, T145N, R81W	47.371207	-101.002606	PEM1C	Depression	4.404	Natural
Wetland 5	5w	Sec.16, T145N, R81W	47.375207	-101.003295	L2ABG	Lake	0.144	Natural
Wetland 6	6w	Sec.19, T145N, R81W	47.371087	-101.050026	PEM1C	Drainageway	0.784	Natural
Wetland 7	7w	Sec.19, T145N, R81W	47.371005	-101.053139	PEM1C	Drainageway	0.309	Natural
Wetland 8	8w	Sec.24, T145N, R82W	47.371019	-101.061901	PEM1A	Depression	0.616	Natural
Wetland 9	9w	Sec.23, T145N, R82W	47.368862	-101.085029	PEM1A	Drainageway	0.249	Natural
Wetland 10	10w	Sec.23, T145N, R82W	47.369933	-101.096021	PEM1A	Ditch	0.064	Created
Wetland 11a	11w-1	Sec.23, T145N, R82W	47.370437	-101.097714	PEM1A	Depression	0.079	Natural
Wetland 11b	11w-1	Sec.23, T145N, R82W	47.370421	-101.098897	PEM1A	Depression	0.053	Natural
Wetland 11c	11w-2	Sec.23, T145N, R82W	47.369915	-101.099153	PEM1A	Depression	0.609	Natural
Wetland 11d	11w-3	Sec.22, T145N, R82W	47.370161	-101.100001	PEM1A	Depression	1.110	Natural
Wetland 12	12w	Sec.22, T145N, R82W	47.369728	-101.102127	PEM1C	Depression	0.113	Natural
Wetland 13a	13w-1	Sec.22, T145N, R82W	47.368431	-101.104950	PEM1C	Depression	2.178	Natural
Wetland 13b	13w-2	Sec.22, T145N, R82W	47.368361	-101.109428	PEM1C	Depression	4.977	Natural
Wetland 13c	13w-3	Sec.22, T145N, R82W	47.368156	-101.114800	PEM1C	Depression	4.067	Natural
Wetland 14	14w	Sec.21, T145N, R82W	47.369510	-101.131027	PEM1C	Depression	0.435	Natural
Wetland 15	15w	Sec.20, T145N, R82W	47.369676	-101.154466	PEM1A	Depression	0.189	Natural
Wetland 17	17w	Sec.21, T145N, R82W	47.368039	-101.130437	PEM1A	Depression	0.174	Natural
Wetland 18	18w	Sec.24, T145N, R8W	47.371101	-101.077711	PEMC	Depression	0.65	
Upland 1	N/A	Sec.23, T145N, R81W	47.361939	-100.969692	N/A	N/A	-	Natural
Upland 2	N/A	Sec.22, T145N, R81W	47.365142	-100.977862	N/A	N/A	-	Natural
Upland 3	N/A	Sec.22, T145N, R81W	47.368942	-100.987477	N/A	N/A		Natural
Upland 4	N/A	Sec.21, T145N, R81W	47.370986	-101.005743	N/A	N/A		Natural
Upland 5	N/A	Sec.21, T145N, R81W	47.371047	-101.012408	N/A	N/A	-	Natural



Wetland Number	Test Hole (within wetland)	Location	LONG West (Dec. Deg.)	LAT North (Dec. Deg.)	Field Cowardin Classification	Wetland Type	Wetland Size (acres)	Wetland Feature
Upland 6	N/A	Sec.20, T145N, R81W	47.370637	-101.015489	N/A	N/A	-	Natural
Upland 7	N/A	Sec.20, T145N, R81W	47.371373	-101.023362	N/A	N/A	-	Natural
Upland 8	N/A	Sec.24, T145N, R82W	47.371243	-101.059661	N/A	N/A	-	Natural
Upland 9	N/A	Sec.23, T145N, R82W	47.369637	-101.082923	N/A	N/A	-	Natural
Upland 10	N/A	Sec.23, T145N, R82W	47.370192	-101.092361	N/A	N/A	-	Natural
Upland 11	N/A	Sec.17, T145N, R82W	47.372490	-101.150278	N/A	N/A	-	Natural
Upland 12	N/A	Sec.15, T145N, R82W	47.372680	-101.109461	N/A	N/A	-	Natural
Upland 13	N/A	Sec.14, T145N, R82W	47.380775	-101.078381	N/A	N/A	-	Natural
Upland 14	N/A	Sec.21, T145N, R82W	47.367948	-101.130490	N/A	N/A		
						Total	24.12	



**Table 2. Other Water\* Table** 

Number	Location	LONG West (Dec. Deg.)	LAT North (Dec. Deg.)	Local Waterway Name	Tributary To	Field or NWI Cowardin Classification	OW Size (acres)	OW Length (feet)	Other Water Type	Located in or Relocating a Natural Tributary
Other Water 16a	Sec.17, T145N, R82W	47.374001	-101.153805	N/A	N/A	R4SB	0.233	463.4	Stormwater Ditch	No
Other Water 16b	Sec.17, T145N, R82W	47.372665	-101.153758	N/A	N/A	R4SB	0.184	359.9	Stormwater Ditch	No
Other Water 16c	Sec.17, T145N, R82W	47.371926	-101.153819	N/A	N/A	R4SB	0.204	389.2	Stormwater Ditch	No
TOTALS 0.621 1212.5										

<sup>\*</sup> Other Waters (OW) can include traditional navigable waters (named rivers, streams, and lakes); non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months); and deepwater habitat (greater than 2 meters) not dominated by persistent, emergent vegetation.



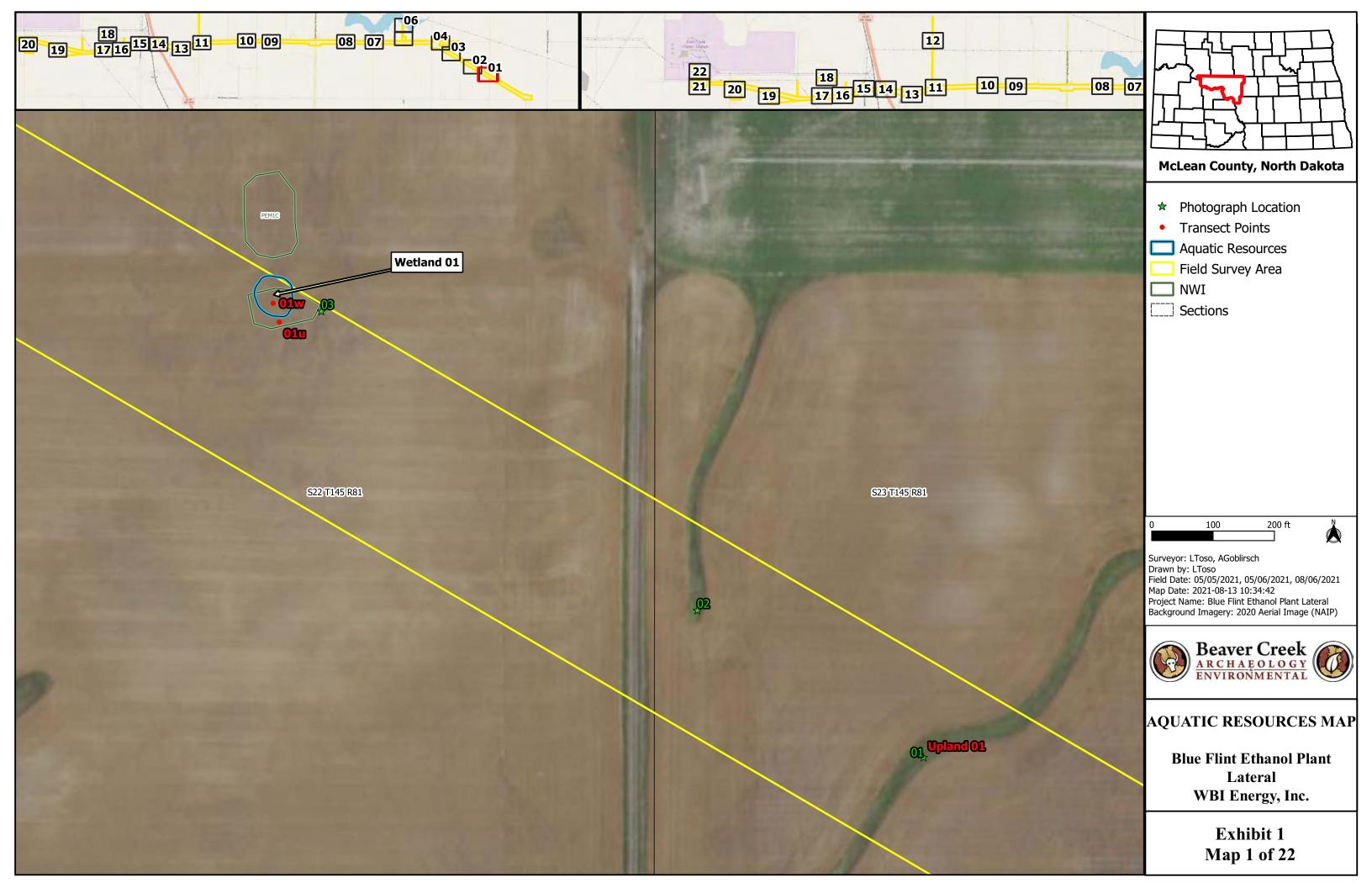
# **Chapter 5. References Cited**

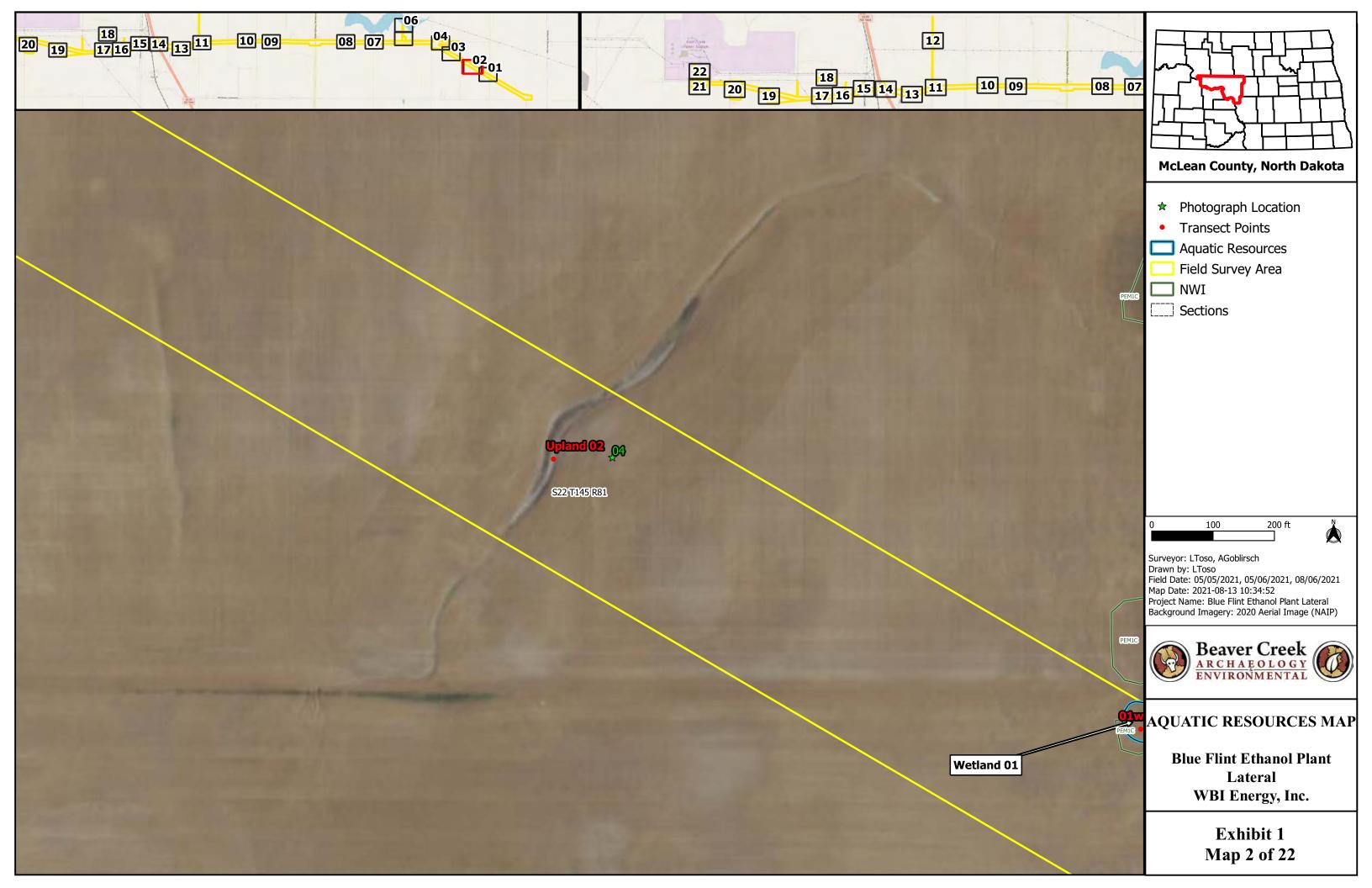
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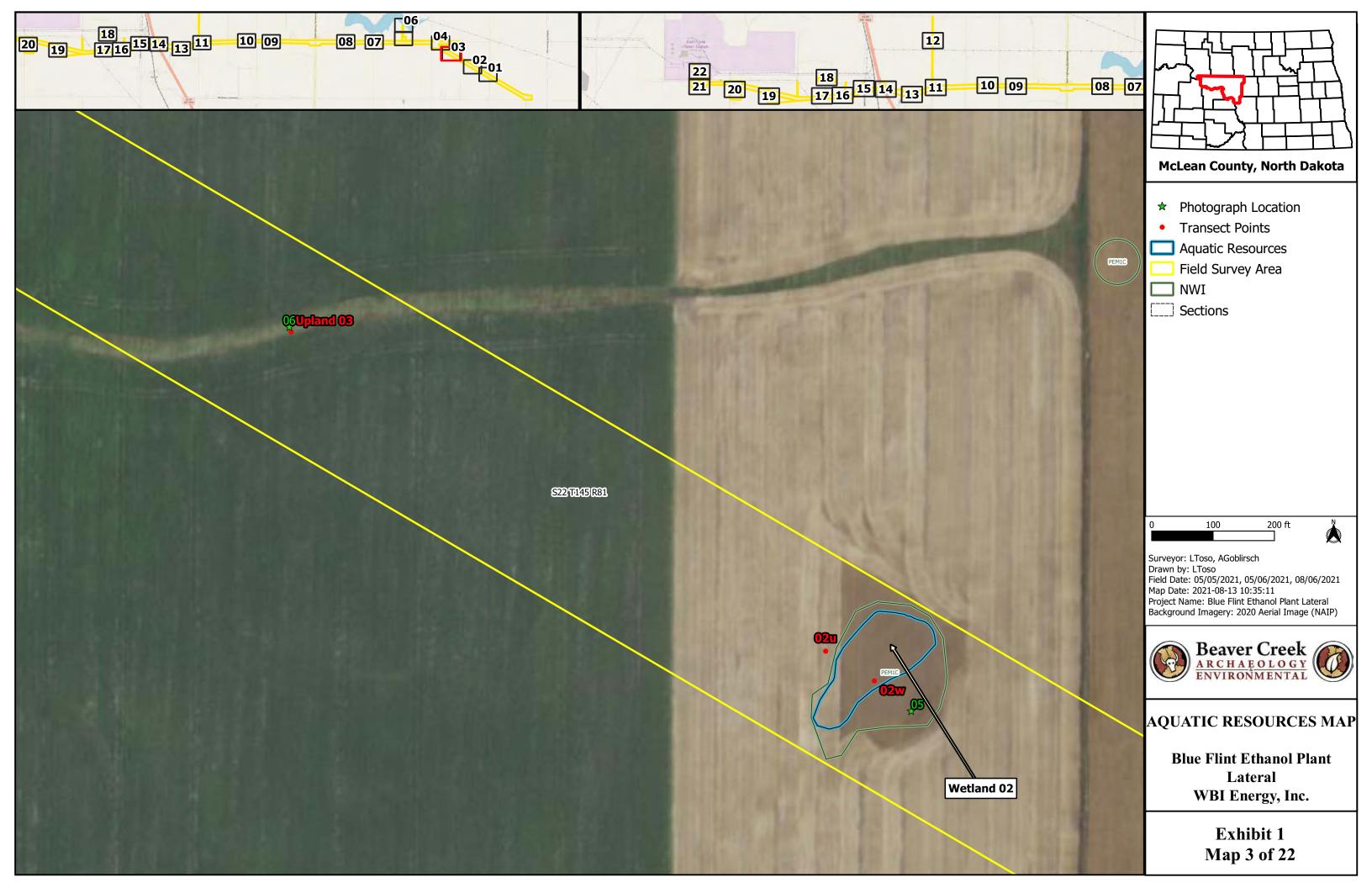


**Appendix A – Aquatic Resource Delineation Maps** 



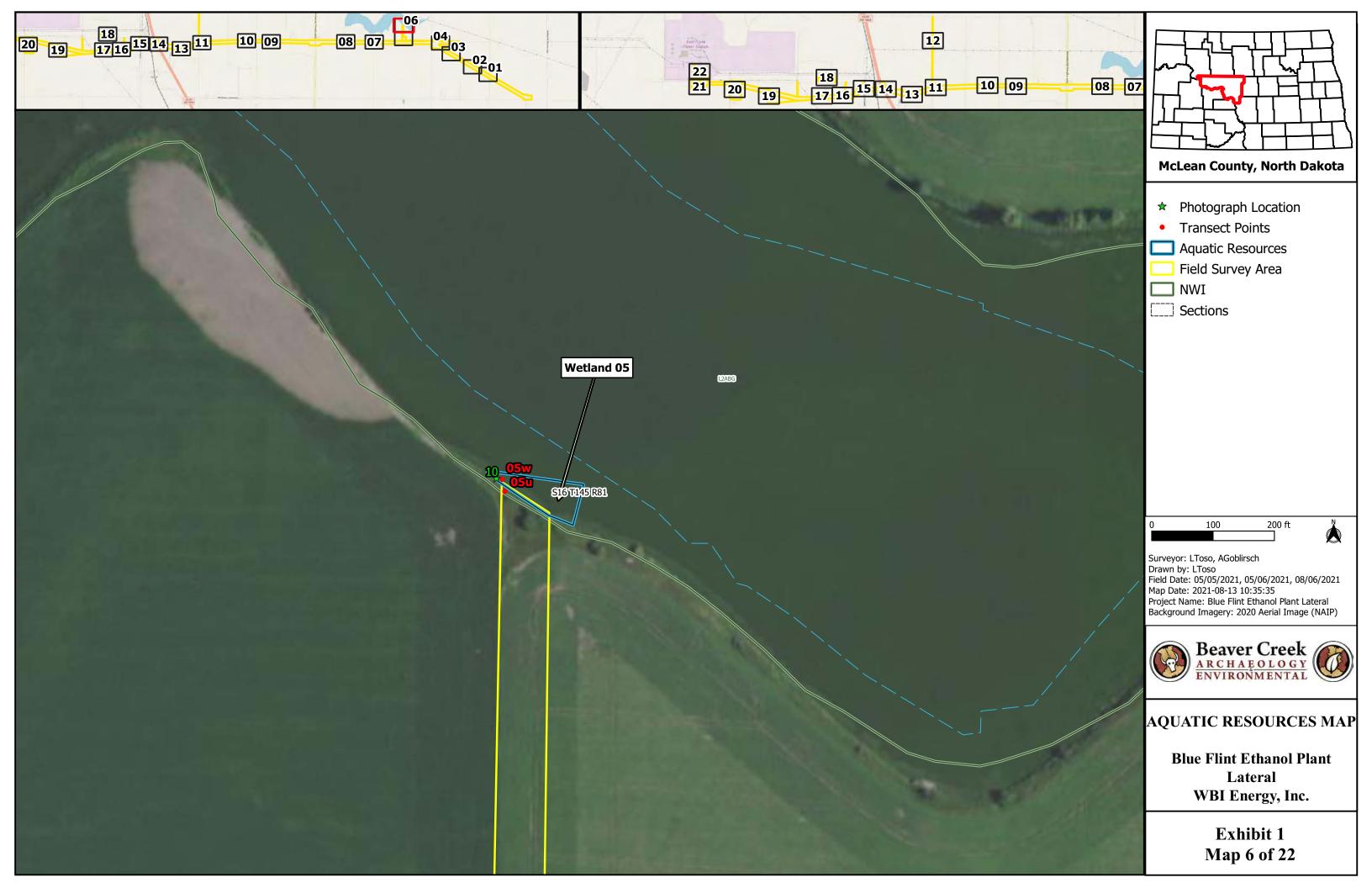


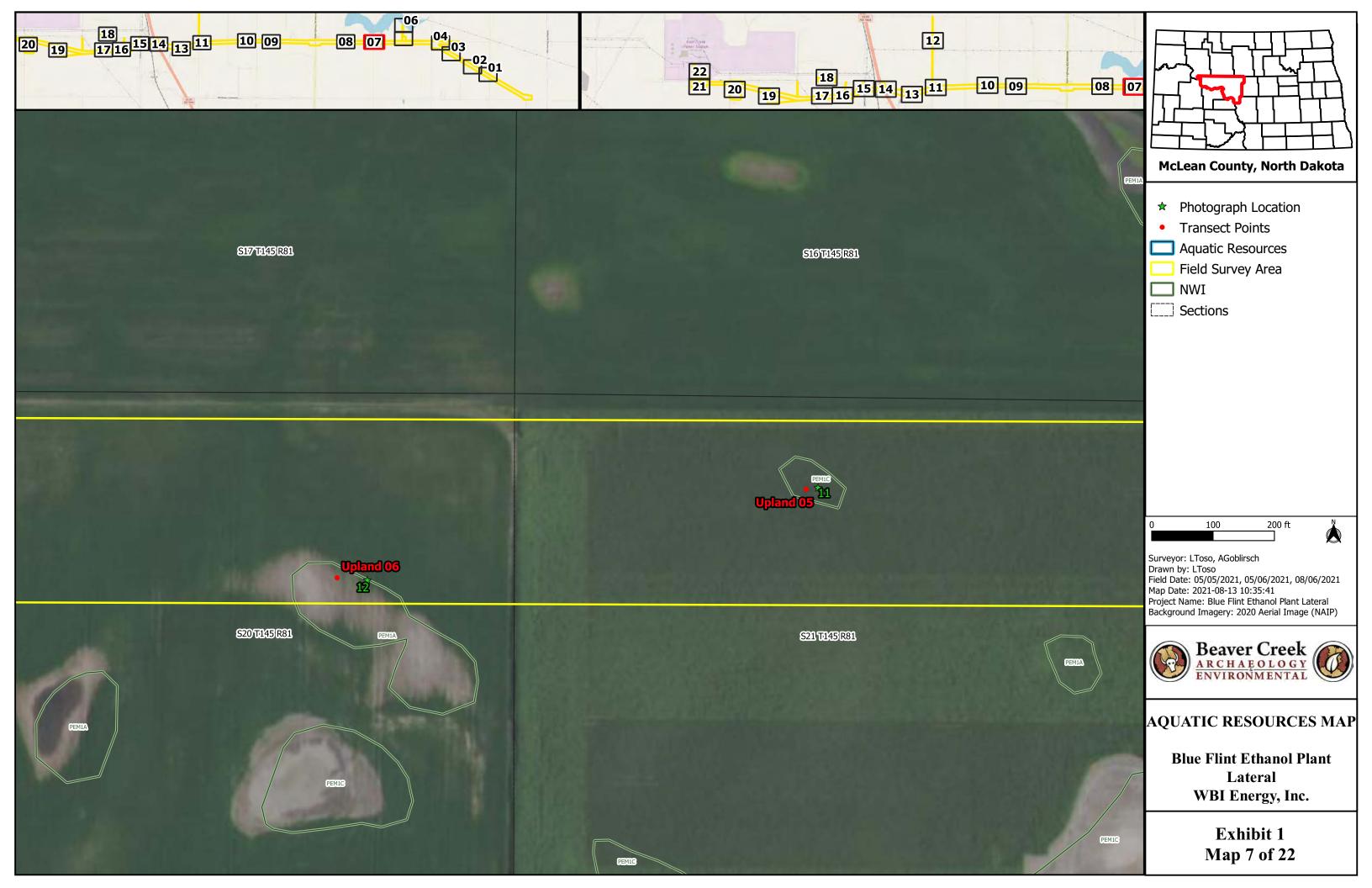




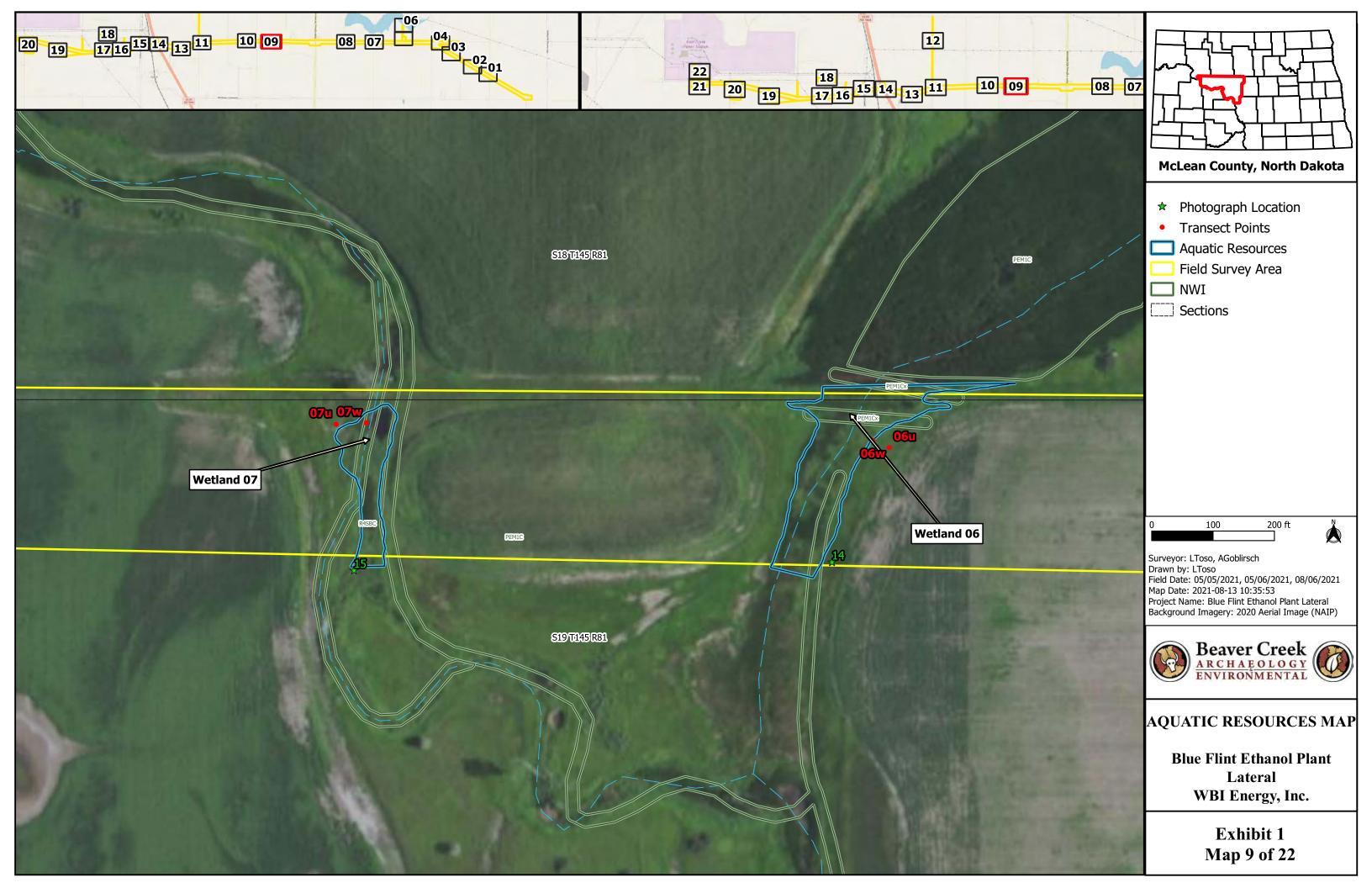


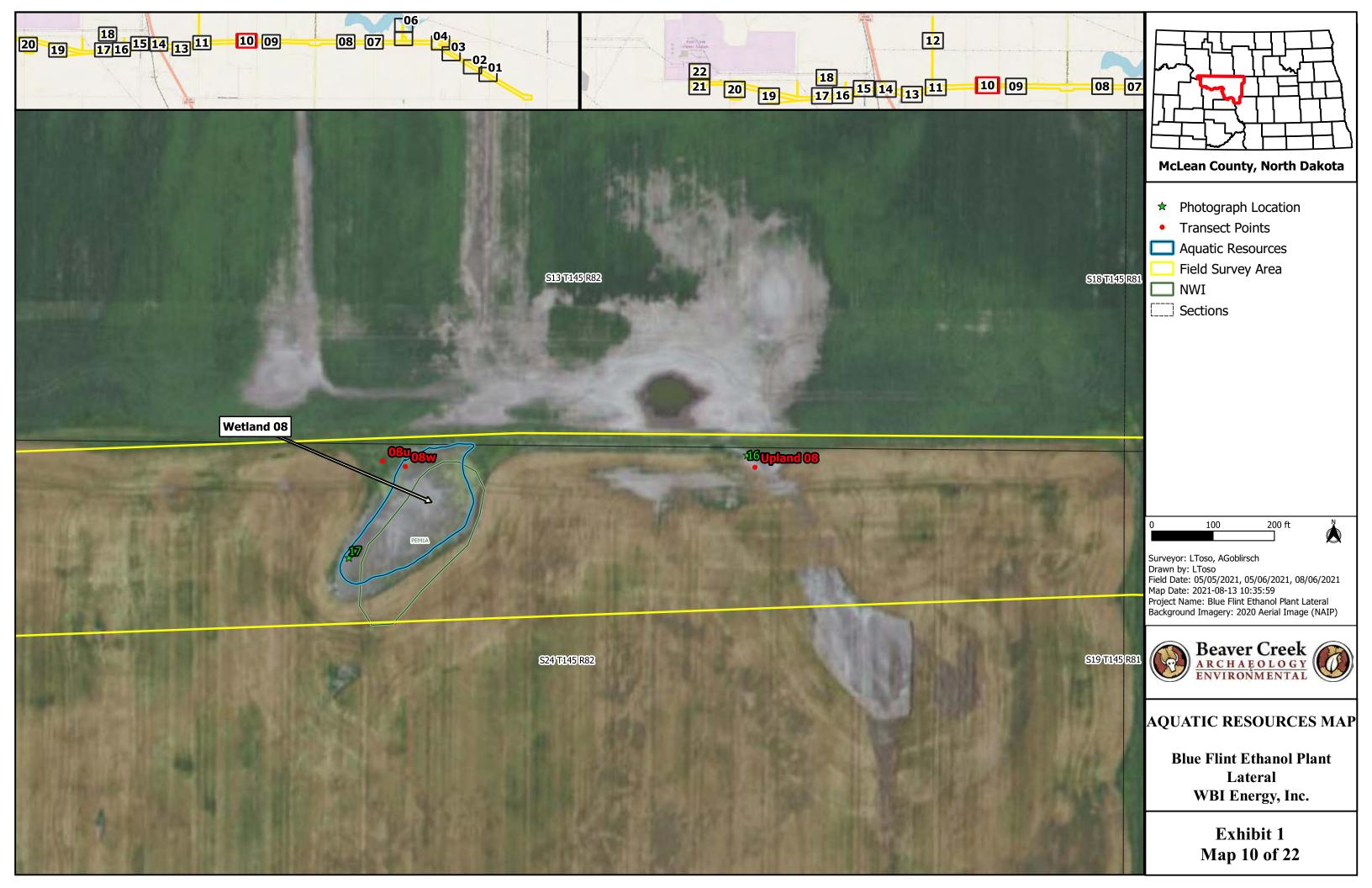


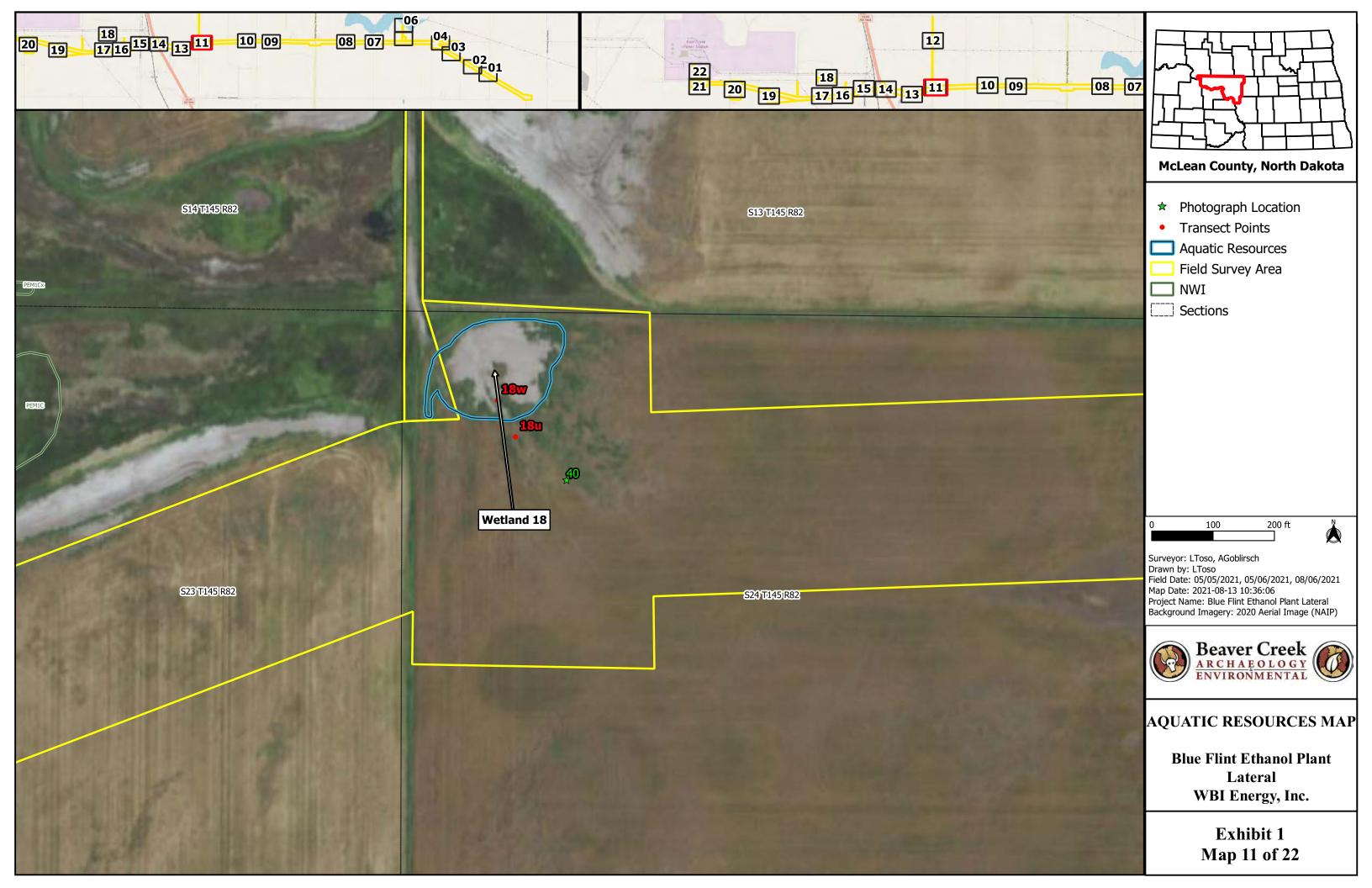


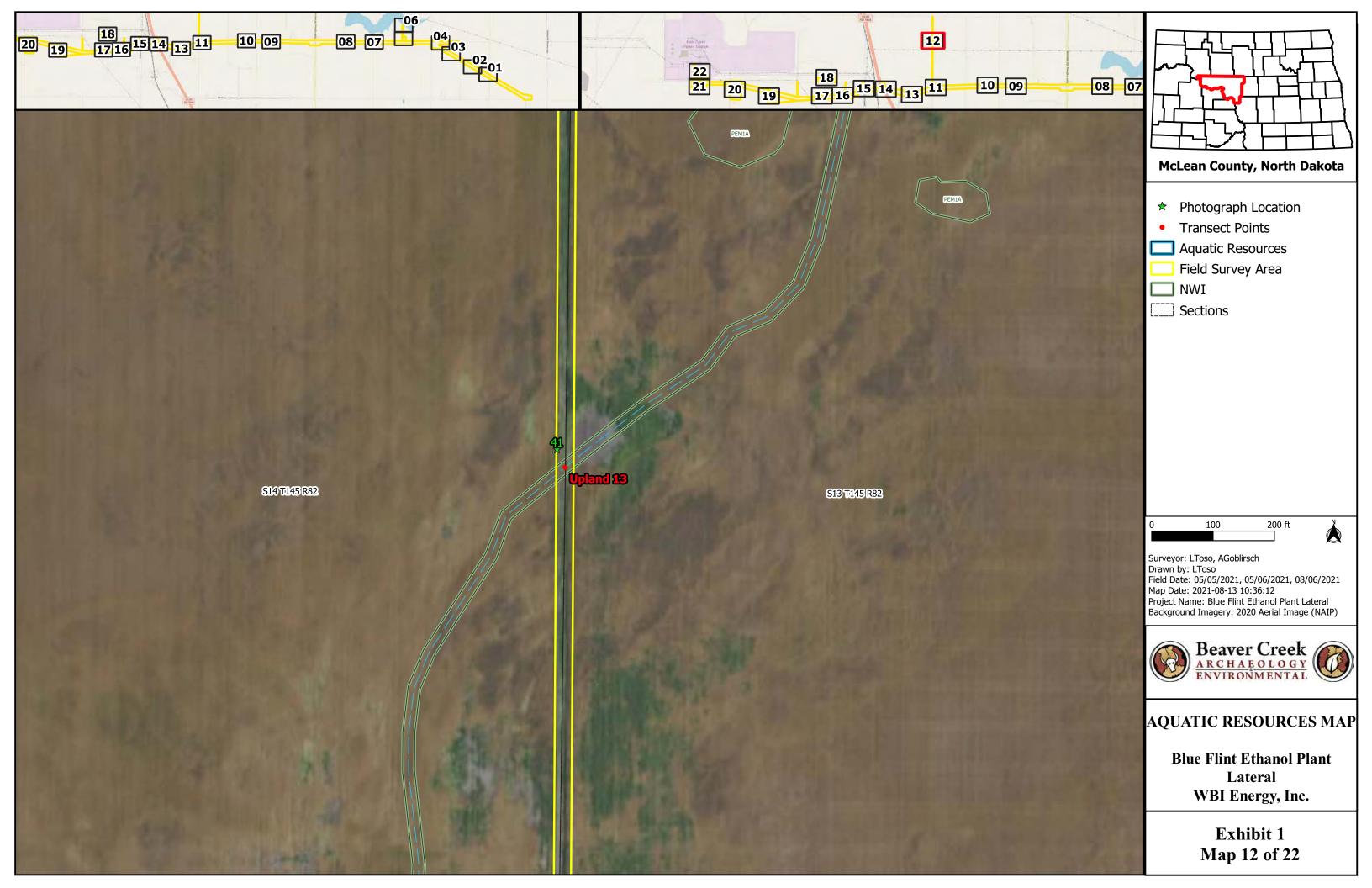


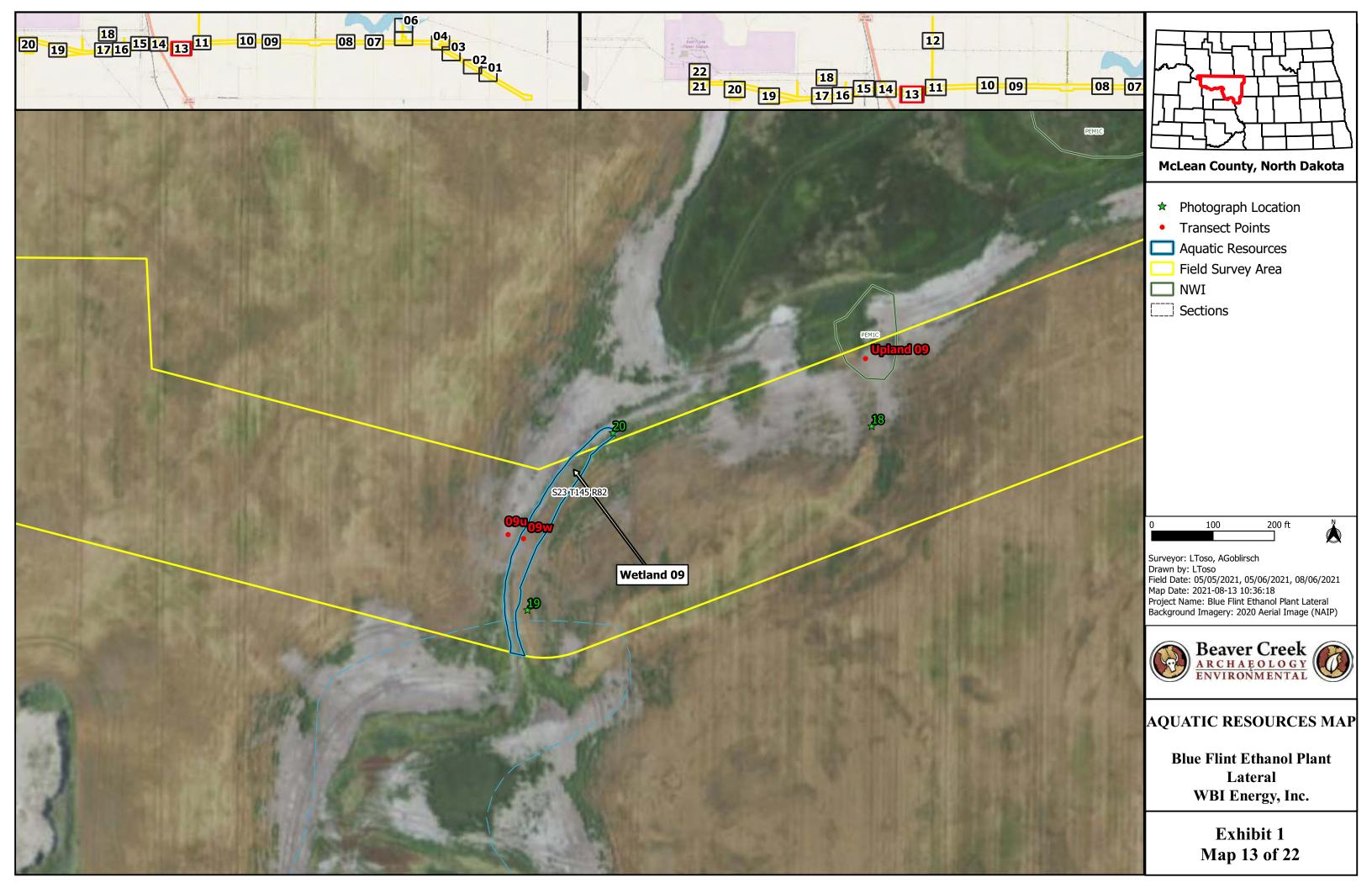




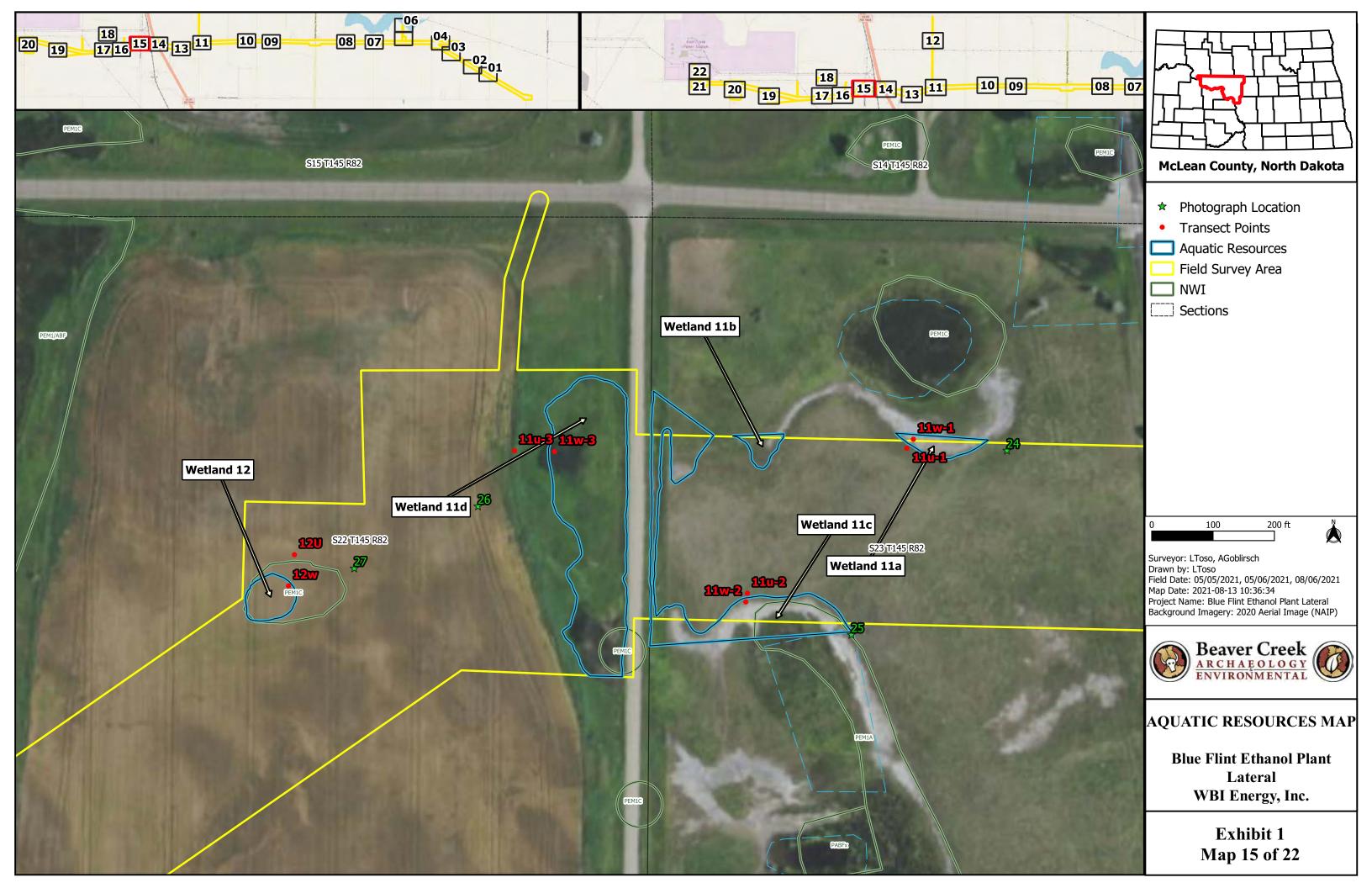


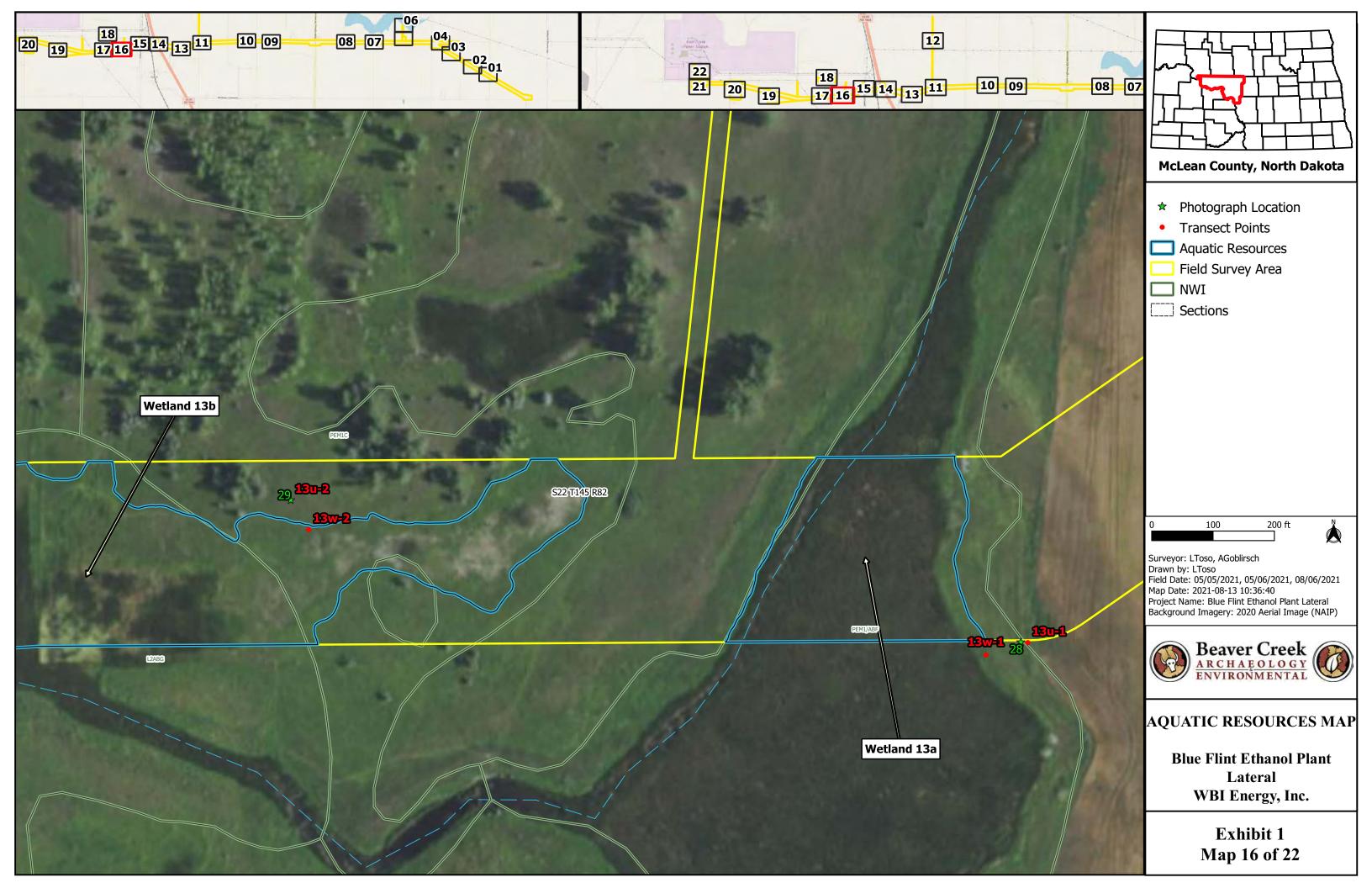


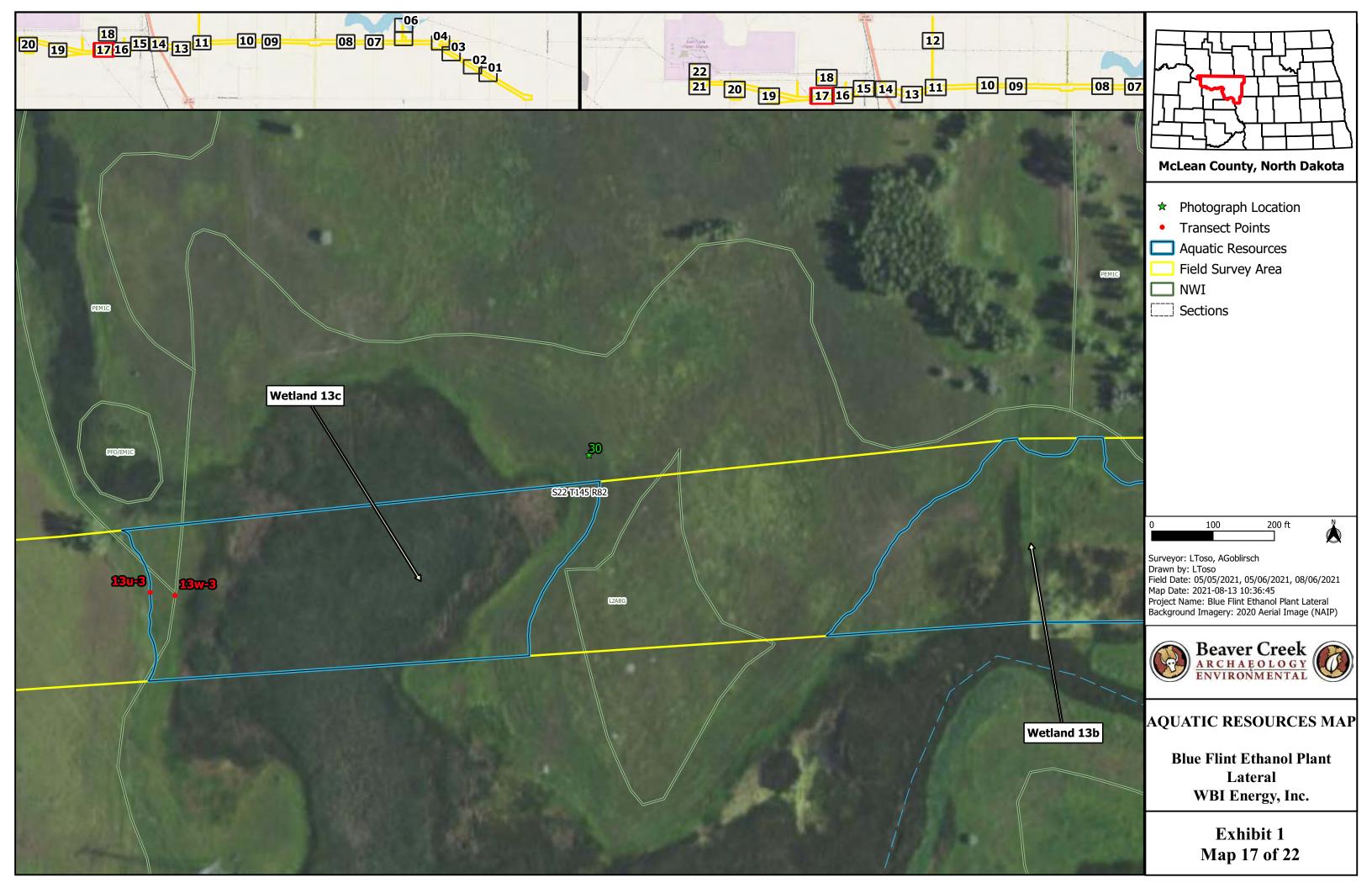


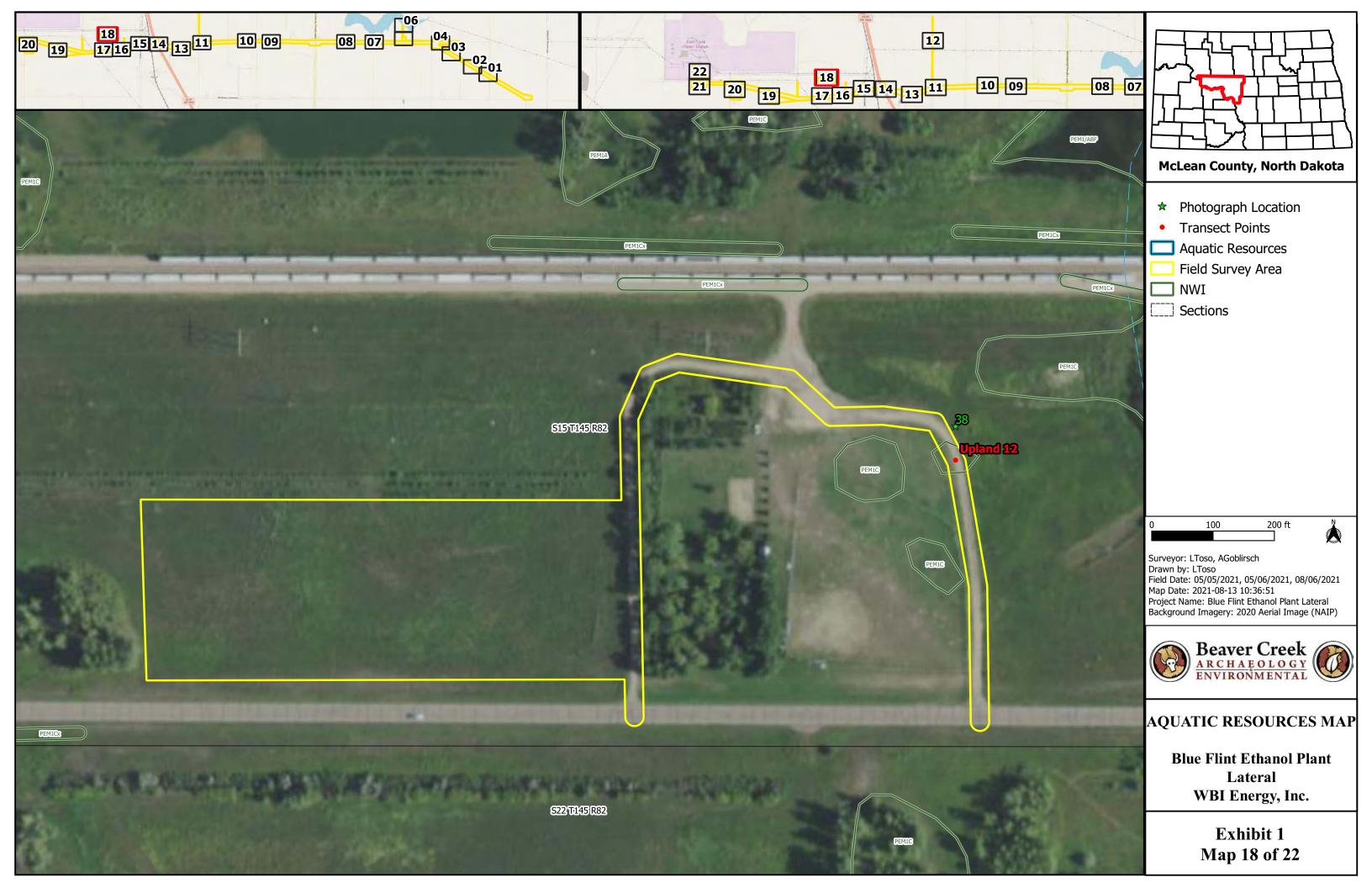


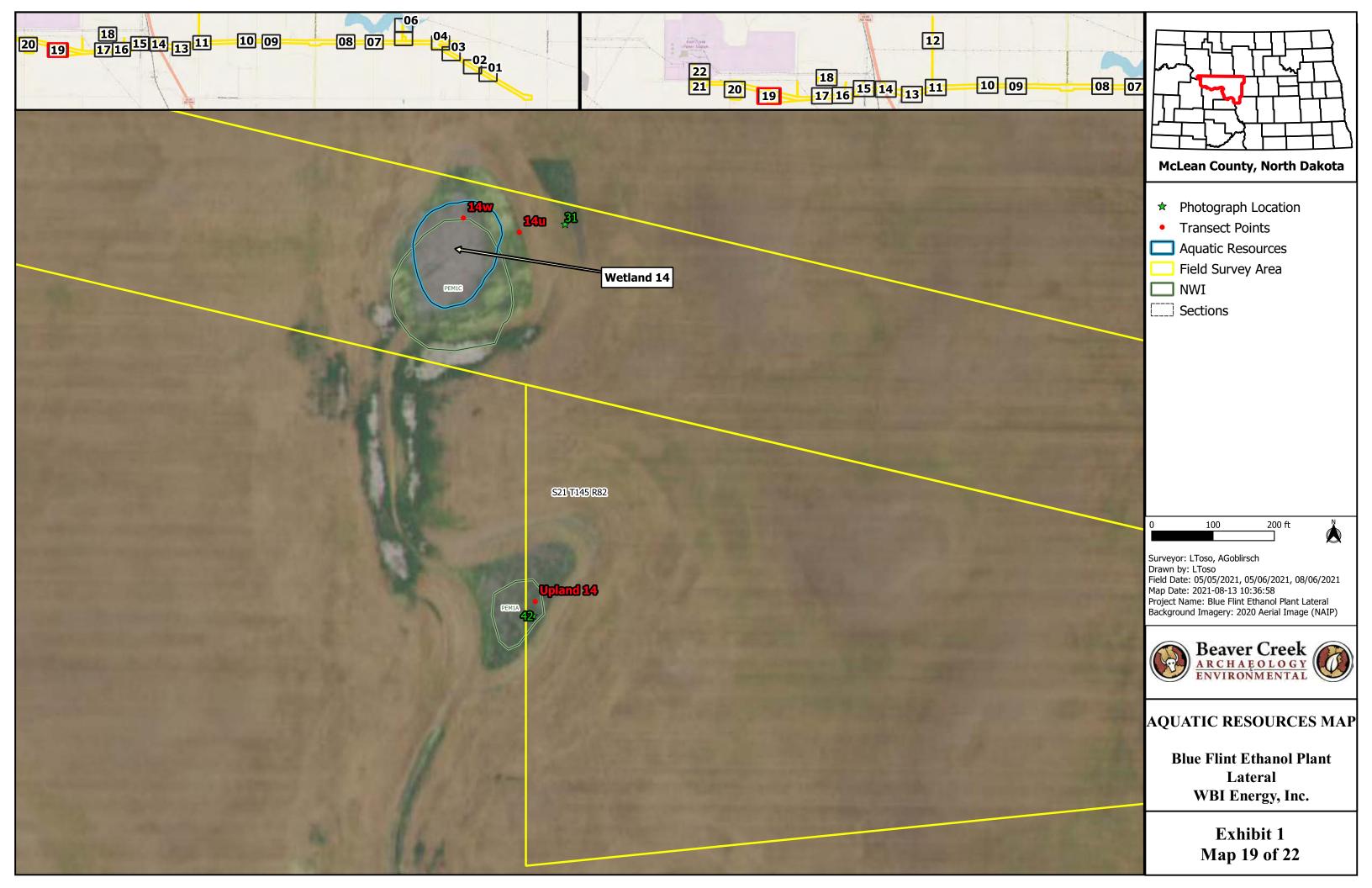


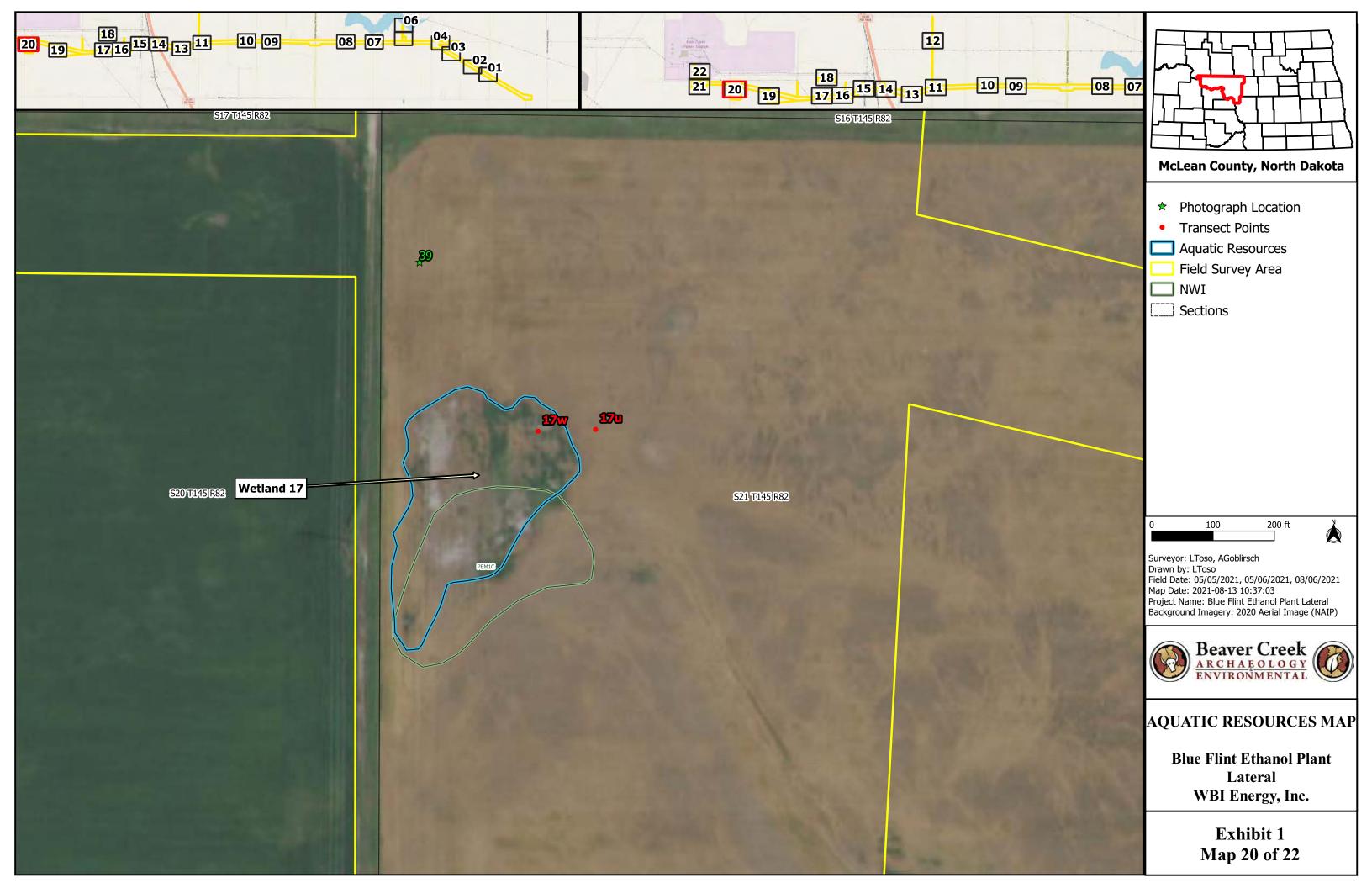


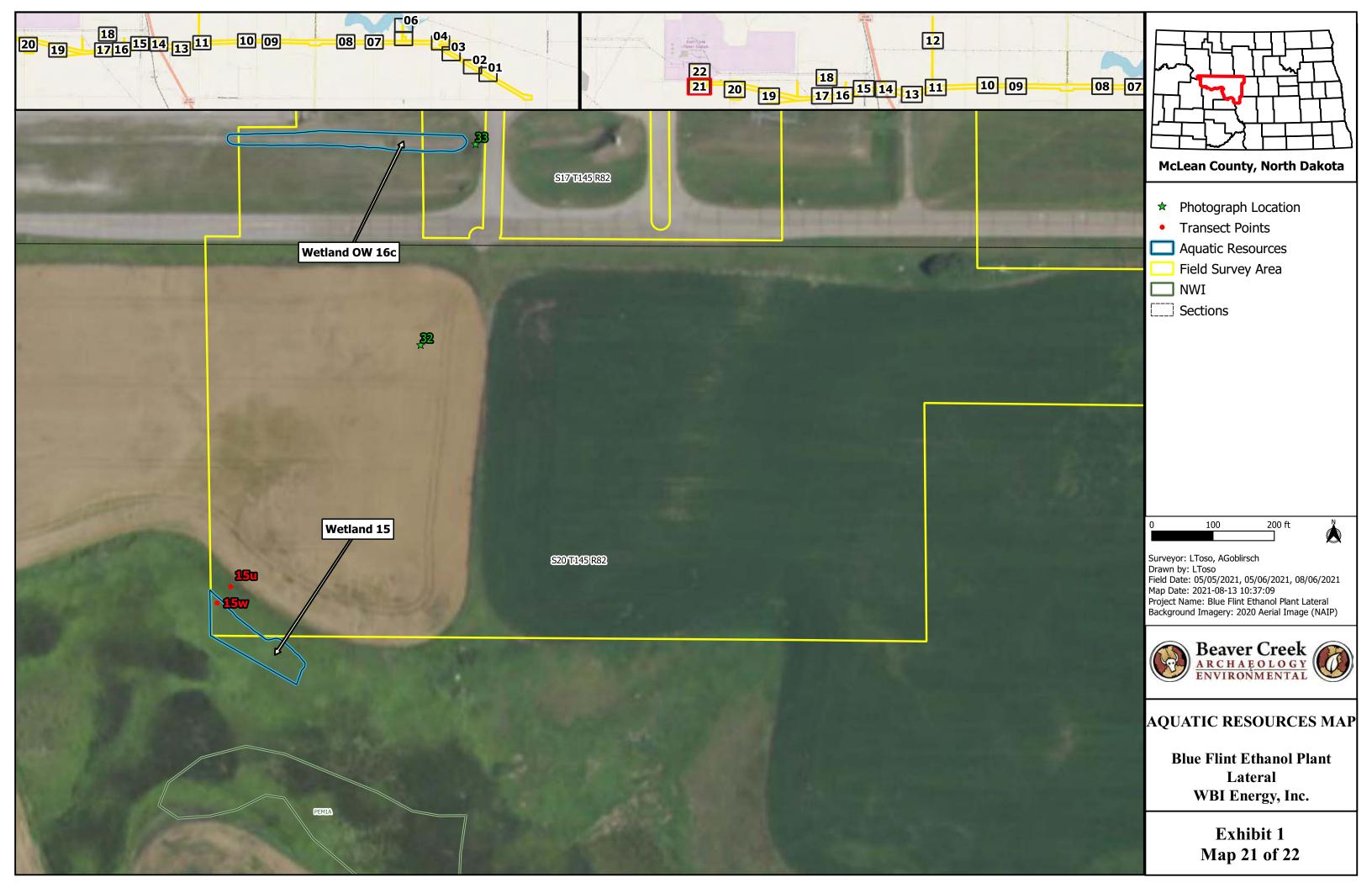


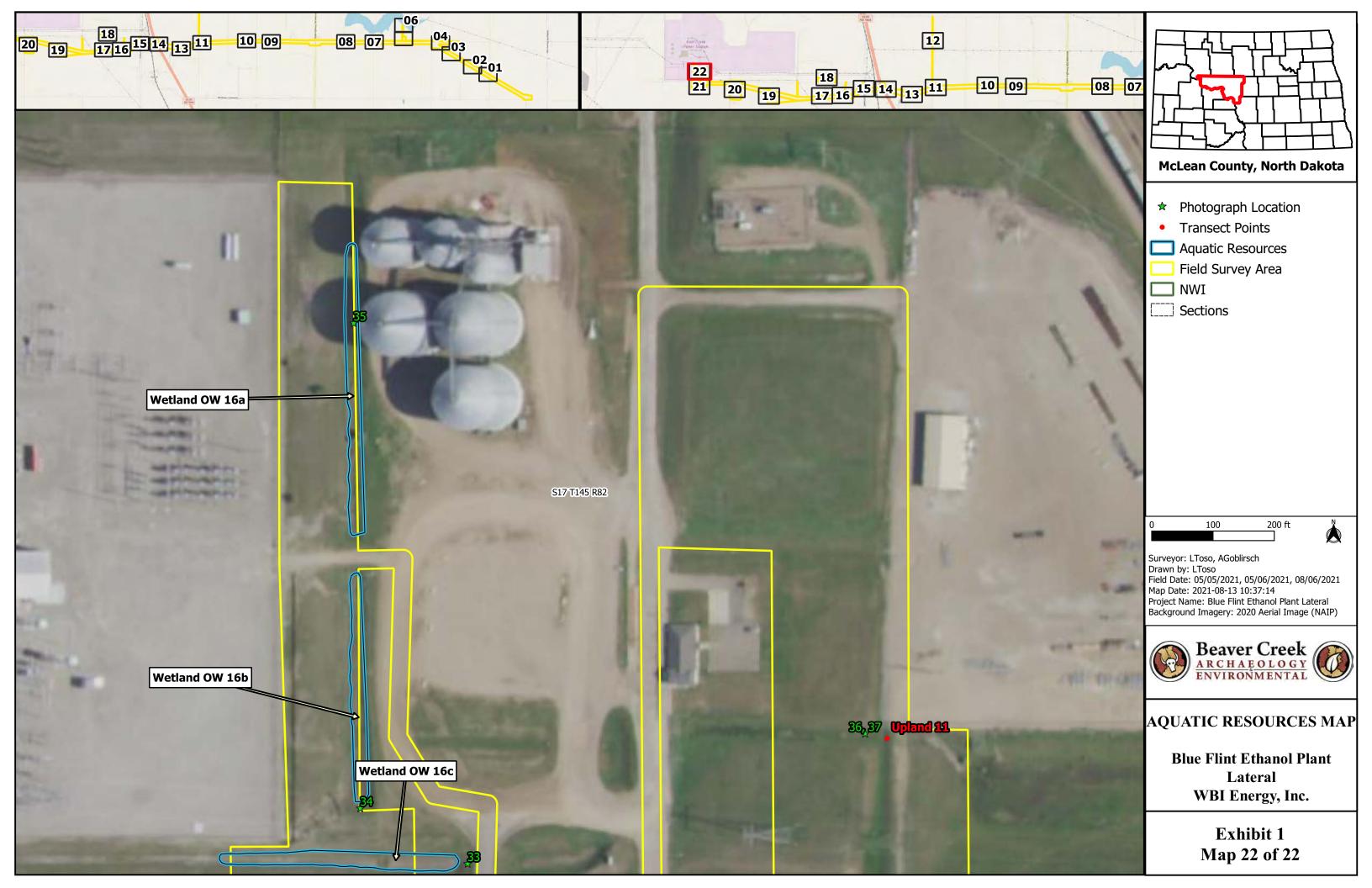












## Appendix B – Supporting Maps



# ${\bf Appendix} \; {\bf C-Photographs}$





**Photo 1.** View northeast of Upland 1.



**Photo 2.** View north overlooking a smooth brome dominated swale just west of Upland 1.





**Photo 3.** View west of Wetland 1. The subtle concave surface in the background indicates the wetland boundary.



**Photo 4.** View southwest of Upland 2.





**Photo 5.** View northwest of Wetland 2.



**Photo 6.** View east of Upland 3.





**Photo 7.** View north of Wetland 3.



**Photo 8.** View west of Wetland 4.





**Photo 9.** View northwest of Upland 4.



**Photo 10.** View east of Wetland 5.





**Photo 11.** View northwest of Upland 5.



**Photo 12.** View west of Upland 6.





**Photo 13.** View southwest of Upland 7.



Photo 14. View north of Wetland 6.





**Photo 15.** View north of Wetland 7.



**Photo 16.** View southeast of Upland 8.





**Photo 17.** View northeast of Wetland 8.



**Photo 18.** View north of Upland 9.





Photo 19. View north of Wetland 9.



Photo 20. View south of Wetland 9.





**Photo 21.** View south overlooking an isolated depression just south of the survey area.

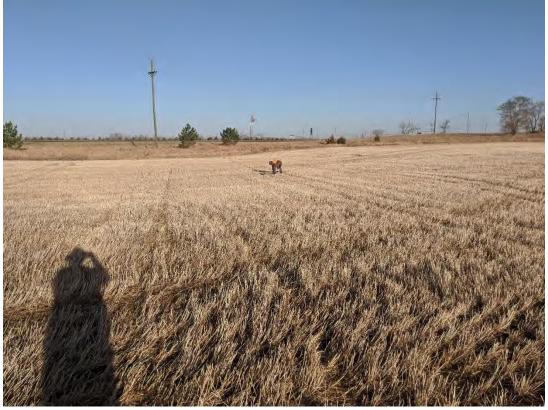


Photo 22. View northwest of Upland 10.





**Photo 23.** View south of Wetland 10.



Photo 24. View west of Wetland 11a.





**Photo 25.** View northwest of Wetland 11c.



Photo 26. View northeast of Wetland 11d.





Photo 27. View west of Wetland 12.



Photo 28. View northwest of Wetland 13a.





Photo 29. View south of Wetland 13b.



Photo 30. View south of Wetland 13c.





**Photo 31.** View west of Wetland 14.



**Photo 32.** View southwest of Wetland 15.





**Photo 33.** View west of Other Water 16c.



**Photo 34.** View north overlooking Other Water 16b.





**Photo 35.** View north overlooking Other Water 16a.



**Photo 36.** View west of Upland 11.





**Photo 37.** View north of Upland 11.



**Photo 38.** View south of Upland 12.





**Photo 39.** View south of Wetland 17



Photo 40. View northwest of Wetland 18





**Photo 41.** View south of Upland 13.



Photo 42. View west of Upland 14.



## Appendix D – Plant List



Table 3. Plant Species Present Within the Survey Area

Scientific Name	Common Name	Wetland Indicator Status*		
Artemisia ludoviciana	Silver Wormwood	UPL		
Bromus inermis	Smooth Brome	UPL		
Distichlis spicata	Inland Saltgrass	FACW		
Echinochloa crus- galli	Cockspur	FAC		
Elymus repens	Couch Grass	FACU		
Fraxinus pennsylvanica	Green Ash	FACU		
Hordeum jubatum	Foxtail Barley	FACW		
Pascopyrum smithii	Western Wheatgrass	FACU		
Phalaris arundinacea	Reed Canary Grass	FACW		
Poa pratensis	Kentucky bluegrass	FACU		
Populus deltoides	Cottonwood	FAC		
Spartina pectinata	Prairie cordgrass	FACW		
Typha latifolia	Cattail	OBL		

#### \* Wetland Indicator Status (WIS):

OBL = occurs in aquatic resources > 99% of time

FACW = occurs in aquatic resources 67-99% of time

FAC = occurs in aquatic resources 34-66% of time

FACU = occurs in aquatic resources 1-33% of time

UPL = occurs in uplands > 99% of time

NI = indicator status not known in this region

~ = unsure as to FAC or FACU



Appendix E - U.S. Army Corps of Engineers Wetland Data Sheets



Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line) City/9	County:	McLear	Sampling Date:	5/5/2021
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND	Sampling Point:	1u
Investigator(s): LT/AG	Section	on, Townshi	p, Range: S22, T1	145N, R81W
Landform (hillslope, terrace, etc.): toeslope	Local re	elief (concav	re, convex, none):	convex
Slope (%): 2 Lat: 47.363867	Long:	-100.9739	47 Datum:	WGS 84
Soil Map Unit Name Williams-Bowbells loams, 3 to 6 perce	ent slopes	NWI	Classification:	PEM1C
Subregion (MLRA or LRR): F Are climatic/hy	drologic cond	ditions of the	site typical for this time of t	he year? Y
Are vegetation $\  \  \  \  \  \  \  \  \  \  \  \  \ $	disturbed?	Are "nor	mal circumstances" present	? N
Are vegetation $\  \  \  \  \  \  \  \  \  \  \  \  \ $	oblematic?	(If neede	ed, explain any answers in r	emarks.)
SUMMARY OF FINDINGS - Attach site map showing	sampling	point loca	tions, transect, import	tant features, etc.
Hydrophytic vegetation present? N	Is the sa	ampled area	a within a wetland?	<u>N</u>
Hydric soil present? N				
Indicators of wetland hydrology present? N				
Remarks: (Explain alternative procedures here or in a separate re	port.)			
Point taken in agricultural field. Natural vegetation absent. Bounda			s and topography. Drought	conditions are present
throughout the region, and the project area is drier than is typical	at this time of	f year.		
VEGETATION - Use scientific names of plants.				
Absolute	Dominant	Indicator	Dominance Test Worksh	neet
Tree Stratum (Plot size: 30 ft ) % Cover	Species	Staus	Number of Dominant Speci	
1			that are OBL, FACW, or FA	
3			Total Number of Domina Species Across all Stra	
			Percent of Dominant Speci	``
5			that are OBL, FACW, or FA	
0	= Total Cover			
Sapling/Shrub stratum (Plot size: 15 ft )			Prevalence Index Works	sheet
1			Total % Cover of:	4
2				1 = 0
3			·	2 = 0
5			· —	4 = 0
	= Total Cover	-	·	5 = 0
Herb stratum (Plot size: 5 ft )			Column totals 0 (	A) 0 (B)
1			Prevalence Index = B/A =	
2				
3			Hydrophytic Vegetation	
5			Rapid test for hydroph Dominance test is >5	-
6			Prevalence index is ≤	
7			Morphogical adaptation	
8			supporting data in Re	
9			separate sheet)	
10			Problematic hydrophy	tic vegetation*
	= Total Cover	-	(explain)	
Woody vine stratum (Plot size: 30 ft )			*Indicators of hydric soil and w present, unless disturb	, ,,
			Hydrophytic	bed of problematic
<sup>-</sup>	= Total Cover	-	vegetation	
% Bare Ground in Herb Statum 100			present? N	<u></u>
Remarks: (Include photo numbers here or on a separate sheet) Natural vegetation absent due to agricultural activities and drough wetland hydrology indicators.	t conditions.	Area assum	ed upland based on the lack	of hydric soils and

SOIL Sampling Point: 1u

<b>Profile Description</b>	(Desc	ribe to t	he depti	h neede	d to do	cument	the indi	cator o	r confirm the a	bsence of indicators.)	
	-	Matrix				Mottles					
Depth (Inches)	Color	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks	
0-14	10YR	2/1	100	<b>5</b>	,		. 71-		Loam		
14-18	10YR	4/3	100						Clay Loam		
									-		
ype: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix											
Hydric Soil Indi	cators:			□b	h: Olavia	l B A manis	(0.4)			roblematic Hydric Soils:	
Histisol (A1) Histic Epipedon (	۸۵۱				dy Gleye dy Redo		(54)	Ļ	cm Muck (A9)	(LRR I,J) dox (A16) (LRR K, L, R)	
Black Histic (A3)	AZ)				oped Ma			L	ark Surface (S		
Hydrogen Sulfide	(A4)				my Muck	. ,	al (F1)			ressions (F16) (LRR H, outside MLRA	
Stratified Layers	(A5) (LRF				my Gley		(F2)	-	72,73)		
1 cm Muck (A9) (					leted Ma	` ,	·=~\	L	educed Vertic	` '	
Depleted Below Deplet		ace (A11	)		lox Dark leted Da		` '	Ļ	ed Parent Mate	rk Surface (TF12)	
Sandy Mucky Mir	,	١			lox Depre		` '	-	ther (explain in		
2.5 cm Mucky Pe	•	•	RR G,H)		•	,	ons (F16	i)	trici (explain iii	romano)	
5 cm Mucky Peat		. , .	-		RA 72, 73			′ *In		ic vegetation and weltand hydrology must be	
		Ch	eck her	e if indi	cators a	re not p	resent:	<b>/</b>	present, t	ınless disturbed or problematic	
Restrictive Layer (i	fobserv										
Type:		-	Dep	oth (inch	es):			H	ydric soil prese	nt? N	
Remarks:											
IRemarks:											
	absent.										
Remarks: Hydric soil indicators	absent.										
Hydric soil indicators	absent.										
Hydric soil indicators  HYDROLOGY											
Hydric soil indicators  HYDROLOGY  Wetland Hydrology	Indicat	ors:		J. abaa	- II th at						
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HYDROLOGY Wetland Hydrology Primary Indicators (r Surface Water (A	Indicat	ors:	s require	ed; chec	Salt Cru	st (B11)	242)		Surface	Soil Cracks (B6)	
Hydric soil indicators  HYDROLOGY  Wetland Hydrology  Primary Indicators (r  Surface Water (A)  High Water Table	Indicat	ors:	s require	ed; chec	Salt Cru Aquatic	st (B11) Fauna (E	,	*41	Surface Sparse	Soil Cracks (B6) ly Vegetated Concave Surface (B8)	
Hydric soil indicators  HYDROLOGY  Wetland Hydrology  Primary Indicators (r  Surface Water (A  High Water Table  Saturation (A3)	Indicat ninimum 1) e (A2)	ors:	s require	ed; chec	Salt Cru Aquatic Hydroge	st (B11) Fauna (E en Sulfide	e Odor (C		Surface Sparse Drainag	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10)	
Hydric soil indicators  HYDROLOGY  Wetland Hydrology  Primary Indicators (r  Surface Water (A  High Water Table  Saturation (A3)  Water Marks (B1	Indicatentinimum 1) e (A2)	ors:	s require	ed; chec	Salt Cru Aquatic Hydroge Dry Sea	st (B11) Fauna (E en Sulfide son Wat	e Odor (C er Table	(C2)	Surface Sparse Drainag Oxidized	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots	
Hydric soil indicators  HYDROLOGY  Wetland Hydrology  Primary Indicators (r  Surface Water (A  High Water Table  Saturation (A3)  Water Marks (B1  Sediment Deposi	Indicateninimum (1) (A2) (A2) (ts (B2)	ors:	s require	ed; chec	Salt Cru Aquatic Hydroge Dry Sea Oxidized	st (B11) Fauna (Een Sulfide son Wat d Rhizos	e Odor (C er Table oheres or	(C2)	Surface Sparse Drainag Oxidizec	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3)	
Hydric soil indicators  HYDROLOGY  Wetland Hydrology  Primary Indicators (r  Surface Water (A  High Water Table  Saturation (A3)  Water Marks (B1  Sediment Deposi  Drift Deposits (B3)	Indicateninimum (1) (A2) (A2) (ts (B2)	ors:	s require	ed; chec	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r	st (B11) Fauna (Een Sulfide son Wat d Rhizosi not tilled)	e Odor (Cer Table oheres or (C3)	(C2) n Living	Surface Sparse Drainag Oxidized (tilled) ((	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8)	
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Hydric soil indicators  HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water preset Water table present? Saturation present? (includes capillary fri	Indicatentinimum(1) (A2) (A2) (A2) (A3) (A3) (A4) (A4) (A4) (A4) (A4) (A4) (A4) (A4	ors: of one i	ry (B7) eck here	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (Een Sulfide son Wat d' Rhizos, not tilled) be of Red ck Surfa explain in Depth (Depth (Dept	e Odor (C er Table bheres or (C3) luced Iror ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (0 Crayfish Saturati Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)	
Hydric soil indicators  HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water preset Water table present? Saturation present? (includes capillary fri	Indicatentinimum(1) (A2) (A2) (A2) (A3) (A3) (A4) (A4) (A4) (A4) (A4) (A4) (A4) (A4	ors: of one i	ry (B7) eck here	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (Een Sulfide son Wat d' Rhizos, not tilled) be of Red ck Surfa explain in Depth (Depth (Dept	e Odor (C er Table bheres or (C3) luced Iror ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (0 Crayfish Saturati Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)	

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line) City/	County:	McLean	Sampling Date:	5/5/21
Applicant/Owner: WBI Energy Transmission, Inc.	State:	State: ND Sampling Point:		
Investigator(s): LT/AG	Section	on, Township	, Range: S22, T14	5N, R81W
Landform (hillslope, terrace, etc.): depression	Local re	elief (concave	e, convex, none): co	oncave
Slope (%): 0 Lat: 47.363951	Long:	-100.97398	88 Datum:	WGS 84
Soil Map Unit Name Williams-Bowbells loams, 3 to 6 percentage	ent slopes	NWI C	Classification: P	EM1C
Subregion (MLRA or LRR): F Are climatic/h	ydrologic cond	ditions of the	site typical for this time of the	year? Y
Are vegetation , soil , or hydrology significantly	disturbed?	Are "norr	mal circumstances" present?	N
Are vegetation , soil , or hydrology naturally pr	d, explain any answers in ren	narks.)		
SUMMARY OF FINDINGS - Attach site map showing	sampling	point locat	tions, transect, importa	nt features, etc.
Hydrophytic vegetation present?	Is the sa	ampled area	within a wetland?	
Hydric soil present? Y				
Indicators of wetland hydrology present?				
Remarks: (Explain alternative procedures here or in a separate re	eport.)			
Point taken in agricultural field. Natural vegetation absent. Bound	. ,	sed on soils	and topography. Drought con	ditions are present
throughout the region, and the project area is drier than is typical				·
VEGETATION - Use scientific names of plants.				
Absolute	Dominant	Indicator	Dominance Test Workshe	et
<u>Tree Stratum</u> (Plot size: 30 ft ) % Cover	Species	Staus	Number of Dominant Species	;
1			that are OBL, FACW, or FAC:	0 (A)
2			Total Number of Dominant	
3			Species Across all Strata:	` ' /
			Percent of Dominant Species	
	= Total Cover	<del></del>	that are OBL, FACW, or FAC:	0.00% (A/B)
Sapling/Shrub stratum (Plot size: 15 ft )	- Total Gover	-	Prevalence Index Worksho	eet
1			Total % Cover of:	
2			OBL species 0 x 1	= 0
3			FACW species 0 x 2	= 0
4			FAC species 0 x 3	
5			FACU species 0 x 4	
O	= Total Cover	•	UPL species 0 x 5	
Herb stratum (Plot size: 5 ft )			Column totals $0$ (A) Prevalence Index = B/A =	(B)
			Trevalence mack - birt -	-
3			Hydrophytic Vegetation In	dicators:
4			Rapid test for hydrophyl	
5			Dominance test is >50%	6
6			Prevalence index is ≤3.0	0*
7			Morphogical adaptations	**
8			supporting data in Rema	arks or on a
9	· ——		separate sheet) Problematic hydrophytic	· vogetetien*
0	= Total Cover		X (explain)	c vegetation
Woody vine stratum (Plot size: 30 ft )	•		<del></del> · · · ·	land budgalagu musat ba
1			*Indicators of hydric soil and wet present, unless disturbed	, ,,
2			Hydrophytic	
0	= Total Cover		vegetation	
% Bare Ground in Herb Statum 100			present? Y	_
Remarks: (Include photo numbers here or on a separate sheet) Natural vegetation absent. Area assumed to be dominated by hyd	dronbytic vecc	atation hased	on the presence of hydric so	ils and wetland
hydrology indicators.	aropriyao vege	Janon baseu	on the presence of flydric so	no and wolland

SOIL Sampling Point: 1w

Profile Description	: (Desci	ribe to t	he dept	h neede	d to do	cument	the indi	cator o	r confirm the a	bsence of indicators.)	
		Matrix				Mottles					
Depth (Inches)	Color (	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks	
0-10	10YR	2/1	95	7.5YR	4/4	5	C	М	Loam		
10-18	10YR	3/2	100						Clay Loam		
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matri											
Hydric Soil Indicators: Indicators for Problematic Hydric Soils:											
Histisol (A1)					, ,	ed Matrix	(S4)		cm Muck (A9)		
Histic Epipedon (	A2)				dy Redo			Ļ		dox (A16) (LRR K, L, R)	
Black Histic (A3) Hydrogen Sulfide	(ΔΔ)				oped Mat	trix (S6) ty Minera	J (E1)	-	ark Surface (S	() (LRR K, L) ressions (F16) (LRR H, outside MLRA	
Stratified Layers		R F)			•	ed Matrix	` '	L		essions (1 10) (LRR H, Outside MLRA	
1 cm Muck (A9) (				_		trix (F3)	. ,	Γ	educed Vertic	(F18)	
Depleted Below D		ace (A1	1)			Surface	` '		_ed Parent Mate		
Thick Dark Surface	,					rk Surfac	. ,			rk Surface (TF12)	
Sandy Mucky Mir 2.5 cm Mucky Pe			DD C U			essions (	,	. L	ther (explain in	remarks)	
5 cm Mucky Peat						of LRR H	ons (F16		dicators of hydrophyt	ic vegetation and weltand hydrology must be	
		. , .	eck her	-			-		present, u	unless disturbed or problematic	
Restrictive Layer (i	fobsory		eck ner	e II IIIuli	Jaiois a	re not p	l esem.				
Type:	i obseiv	eu).	Der	oth (inch	oc).			ш	ydric soil prese	nt? Y	
				out (inch				п	yunc son prese	····· <u> </u>	
Remarks:		ı									
Hydric soil indicators	s present	Ι.									
HYDROLOGY											
Wetland Hydrology	Indicate	ors:									
Primary Indicators (r	<u>minimum</u>	of one	is require	ed; chec	k all that	apply)			Secondary Ind	icators (minimum of two required)	
Surface Water (A	.1)		-		Salt Cru	st (B11)				Soil Cracks (B6)	
High Water Table	(A2)				Aquatic	Fauna (E	313)		Sparse	ly Vegetated Concave Surface (B8)	
Saturation (A3)							e Odor (C	,	Drainag	e Patterns (B10)	
Water Marks (B1	,						er Table	. ,		d Rhizospheres on Living Roots	
Sediment Deposi	. ,				-		pheres or	n Living		· ·	
Drift Deposits (B3				_		ot tilled)	. ,	· (CA)		Burrows (C8)	
Algal Mat or Crus						e of Red ck Surfa	luced Iroi	1 (04)		on Visible on Aerial Imagery (C9) phic Position (D2)	
Inundation Visible		al Image	rv (B7)				Remark	s)	=	utral Test (D5)	
Water-Stained Le		Ū	., (5.)	L	Cui   C	гирічіні ін	rtomant	٥,		eaved Hummocks (LRR F)	
	(= -		eck here	if indic	ators a	e not n	resent.	$\overline{\Gamma}$		(2)	
Field Observations	:	<u> </u>	cok nore	, ii iiiaic	ators ar	c not p	Cociii.				
Surface water prese		Yes		No	$\overline{\ }$	Depth (	inches):				
Water table present?	?	Yes	П	No		Depth (	inches):		Inc	licators of wetland	
Saturation present?		Yes		No	<b>✓</b>	Depth (	inches):		hy	drology present? Y	
(includes capillary fri	inge)										
Desc	cribe rec	orded da	ata (strea	am gaug	e, monit	oring we	ell, aerial	photos	, previous inspe	ctions), if available:	
Remarks:											
Wetland hydrology ir	ndicators	presen	t.								
, ,		•									

Project/Site Falkirk Ethanol Plant Lateral (Blue F	Flint Line) City/	County:	McLean	Sampling Date:	5/5/21
Applicant/Owner: WBI Energy Transmission,	Inc.	State:	ND	Sampling Point:	2u
Investigator(s): LT/AG		Section	on, Township	o, Range: S22,	T145N, R81W
Landform (hillslope, terrace, etc.):	hillslope	Local re	elief (concav	e, convex, none):	convex
Slope (%): 4 Lat: 47.3	36753	Long:	-100.9839	47 Datum:	WGS 84
Soil Map Unit Name Tonka-Parnell comp	olex, 0 to 1 percer	nt slopes	NWI (	Classification:	-
Subregion (MLRA or LRR): F	Are climatic/hy	drologic cond	ditions of the	site typical for this time of	the year? Y
Are vegetation , soil , or hydrology	significantly	disturbed?	Are "nor	mal circumstances" prese	nt? N
Are vegetation , soil , or hydrology	naturally pro	oblematic?	(If neede	ed, explain any answers in	remarks.)
SUMMARY OF FINDINGS - Attach site	map showing	sampling	point loca	tions, transect, impo	rtant features, etc.
Hydrophytic vegetation present?	N	Is the sa	ampled area	within a wetland?	N
Hydric soil present?	N				
Indicators of wetland hydrology present?	N				
Remarks: (Explain alternative procedures here of	r in a senarate re	enort )			
Point taken in agricultural field. Natural vegetation	•	. ,	ased on soil	s and topography. Drough	t conditions are present
throughout the region, and the project area is dr				1317 3	'
VEGETATION - Use scientific names of	of nlants				
COLIMITOR OSC SCIENTING HARRIES C	Absolute	Dominant	Indicator	Dominance Test Work	sheet
Tree Stratum (Plot size: 30 ft	) % Cover	Species	Staus	Number of Dominant Spe	
1				that are OBL, FACW, or F	
2				Total Number of Domi	nant
3				Species Across all Str	rata: 0 (B)
4				Percent of Dominant Spe	
5		<del></del>		that are OBL, FACW, or F	AC: 0.00% (A/B)
Sapling/Shrub stratum (Plot size: 15 ft	,	= Total Cover		Prevalence Index Worl	rehoot
1 1				Total % Cover of:	Asheet
2				OBL species 0	x 1 = 0
3	<del></del>			FACW species 0	x 2 = 0
4				FAC species 0	x 3 = 0
5				FACU species 0	x 4 = 0
	0	= Total Cover	-	UPL species 0	x 5 = 0
Herb stratum (Plot size: 5 ft	)			Column totals 0	(A) 0 (B)
1				Prevalence Index = B/A	= <u></u>
2				Hydrophytic Vegetatio	n Indicators:
4	<del></del>			Rapid test for hydro	
5				Dominance test is >	
6				Prevalence index is	≤3.0*
7				Morphogical adapta	tions* (provide
8				supporting data in R	
9				separate sheet)	
10		<del></del>		Problematic hydropl	nytic vegetation*
Wasdaying stratum (Districts 20 ft	\ <u> </u>	= Total Cover	•	(explain)	
Woody vine stratum (Plot size: 30 ft	)			-	wetland hydrology must be
2				Hydrophytic	urbed or problematic
		= Total Cover		vegetation	
% Bare Ground in Herb Statum 100	_	,			N
Remarks: (Include photo numbers here or on a					_
Natural vegetation absent. Area assumed uplan	d based on the la	ck of hydric s	oils and wetl	and hydrology indicators.	

SOIL Sampling Point: 2u

i rome bescription	: (Desci	ibe to t	he dept	n neede	a to ao	cument	tne inai	cator o	r confirm the a	osence of indicators.)									
		Matrix				Mottles													
Depth (Inches)	Color (	moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks									
0-12	10YR	2/1	100		()	, -	- 7		Loam										
12-18	2.5YR	4/2	100						Clay Loam										
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matri																			
Hydric Soil Indi	icators:									roblematic Hydric Soils:									
Histisol (A1)					dy Gleye		(S4)		cm Muck (A9)										
Histic Epipedon (	,				dy Redo			Ļ		dox (A16) (LRR K, L, R)									
Black Histic (A3) Hydrogen Sulfide					pped Mat my Muck	. ,	J (E1)	H	ark Surface (S7	essions (F16) (LRR H, outside MLRA									
Stratified Layers	. ,	: F)			my Gley			L		essions (F10) (LRK H, outside MLKA									
1 cm Muck (A9) (					leted Ma		. ()	Г	educed Vertic	(F18)									
Depleted Below [			1)	Rec	lox Dark	Surface	(F6)		ed Parent Mate	rial (TF2)									
Thick Dark Surfa	,				leted Da		` '		<b>_</b> '	rk Surface (TF12)									
Sandy Mucky Mir					lox Depre	,	,		ther (explain in	remarks)									
2.5 cm Mucky Pe							ons (F16		idicators of hydronhyt	ic vegetation and weltand hydrology must be									
5 cm Mucky Pea	t or Peat	• •			RA 72, 73					nless disturbed or problematic									
			eck her	e if indi	cators a	re not p	resent:	<b>✓</b>											
Restrictive Layer (i	f observ	ed):	_																
Type:			Dep	th (inch	es):			H	ydric soil prese	nt? <u>N</u>									
Remarks:																			
Hydric soil indicators	s absent.																		
HADBOI UCA																			
	Indicat	ore:								HYDROLOGY									
1		Wetland Hydrology Indicators:																	
	minimum	of ana :		. d. abaa	امال الما	ابراممه			0										
I 🖳 `	Primary Indicators (minimum of one is required; check all that apply)  Secondary Indicators (minimum of two required; check all that apply)  Surface Water (A1)  Surface Soil Cracks (B6)									cators (minimum of two required)									
							242\		Surface	Soil Cracks (B6)									
	<b>\1</b> )	of one i	s require	ed; chec	Salt Cru Aquatic	st (B11) Fauna (E		<b>^</b> 4\	Surface Sparse	Soil Cracks (B6) ly Vegetated Concave Surface (B8)									
Saturation (A3)	A1) e (A2)	of one i	s require	ed; chec	Salt Cru Aquatic Hydroge	st (B11) Fauna (E en Sulfide	e Odor (C		Surface Sparse Drainage	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10)									
Saturation (A3) Water Marks (B1	(1) e (A2)	of one i	s require	ed; chec	Salt Cru Aquatic Hydroge Dry Sea	st (B11) Fauna (E en Sulfide son Wat	e Odor (C er Table	(C2)	Surface Sparse Drainage Oxidized	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots									
Saturation (A3) Water Marks (B1 Sediment Deposi	(1) e (A2) ) its (B2)	of one i	s require	ed; chec	Salt Cru Aquatic Hydroge Dry Sea Oxidized	st (B11) Fauna (Een Sulfide son Wat d Rhizos	e Odor (C er Table oheres o	(C2)	Surface Sparse Drainage Oxidized	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3)									
Saturation (A3) Water Marks (B1 Sediment Deposi Drift Deposits (B3	(1) e (A2) ) its (B2)	of one i	s require	ed; chec	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r	st (B11) Fauna (Een Sulfide son Wat d Rhizosi not tilled)	e Odor (Cer Table oheres or (C3)	(C2) n Living	Surface Sparse Drainage Oxidized (tilled) ((	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3) Burrows (C8)									
Saturation (A3) Water Marks (B1 Sediment Deposi Drift Deposits (B3	(A1) e (A2) ) its (B2) (B4)	of one i	s require	ed; chec	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presenc	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) e of Red	e Odor (Cer Table oheres or (C3)	(C2) n Living	Surface Sparse Drainage Oxidizec (tilled) (( Crayfish	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9)									
Saturation (A3) Water Marks (B1 Sediment Deposi Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5	(A1) (A2) () (its (B2) (3) (st (B4)		·	ed; chec	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend	st (B11) Fauna (Een Sulfiderson Wated Rhizosport tilled) ee of Red	e Odor (Cer Table oheres of (C3) duced Iron (C7)	(C2) n Living n (C4)	Surface Sparse Drainage Oxidized (tilled) (Cayfish Saturation Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)									
Saturation (A3) Water Marks (B1 Sediment Deposi Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5	(1) e (A2) ) its (B2) 3) st (B4) 5) e on Aeria	al Image	·	ed; chec	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend	st (B11) Fauna (Een Sulfiderson Wated Rhizosport tilled) ee of Red	e Odor (Cer Table oheres or (C3)	(C2) n Living n (C4)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatid Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)									
Saturation (A3) Water Marks (B1 Sediment Deposi Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5	(1) e (A2) ) its (B2) 3) st (B4) 5) e on Aeria	al Image ))	ry (B7)		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (Een Sulfiderson Wated Rhizosport tilled) the e of Redeck Surfaction in	e Odor (Cer Table oheres of (C3) luced Iroloce (C7) Remark	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatid Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)									
Saturation (A3) Water Marks (B1 Sediment Deposi Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le	(A1) (A1) (A2) (A2) (A3) (A4) (A4) (A4) (A4) (A4) (A4) (A4) (A4	al Image ))	·		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (Een Sulfiderson Wated Rhizosport tilled) the e of Redeck Surfaction in	e Odor (Cer Table oheres of (C3) luced Iroloce (C7) Remark	(C2) n Living n (C4)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatid Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)									
Saturation (A3) Water Marks (B1 Sediment Deposi Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le	(A1) (A1) (A2) (A2) (A3) (A4) (A4) (A4) (A4) (A4) (A4) (A4) (A4	al Image	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in	e Odor (Cer Table otheres of (C3) luced Irol (C7) Remark	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatid Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)									
Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese	(1) (A2) (A2) (its (B2) (B3) (st (B4) (b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c	al Image ))	ry (B7)		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat I Rhizos not tilled) se of Red ck Surfa explain in  Depth (	e Odor (Cer Table obheres of (C3) luced Iron (C7) Remark	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (Cayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)									
Saturation (A3) Water Marks (B1 Sediment Deposi Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le	(1) (A2) (A2) (its (B2) (B3) (st (B4) (b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c	al Image ) Cho	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat I Rhizos not tilled) ee of Red ck Surfa explain in  Depth ( Depth (	e Odor (Cer Table otheres of (C3) luced Irol (C7) Remark	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidizec (tilled) (Cayfish Saturation Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)									
Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B3 Inundation Visible Water-Stained Le Field Observations Surface water prese Water table present	(1) (A2) (A2) (its (B2) (B3) (st (B4) (s) (e) (e) (e) (e) (e) (e) (e) (e) (e) (e	al Image  Che  Yes  Yes	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat I Rhizos not tilled) ee of Red ck Surfa explain in  Depth ( Depth (	e Odor (Cer Table oberes of (C3) luced Irol ce (C7) Remark resent:	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidizec (tilled) (Cayfish Saturation Geomor FAC-Ne Frost-He	Soil Cracks (B6)  ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)									
Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fr	(1) (A2) (A2) (A2) (A3) (A4) (A4) (A4) (A4) (A4) (A4) (A4) (A4	al Image  Cho  Yes  Yes  Yes  Yes	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in Te not pi  Depth ( Depth (	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)									
Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fr	(1) (A2) (A2) (A2) (A3) (A4) (A4) (A4) (A4) (A4) (A4) (A4) (A4	al Image  Cho  Yes  Yes  Yes  Yes	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in Te not pi  Depth ( Depth (	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6)  ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)									
Saturation (A3) Water Marks (B1 Sediment Deposits (B3 Algal Mat or Crus Iron Deposits (B3 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present? Saturation present? (includes capillary fr	(1) (A2) (A2) (A2) (A3) (A4) (A4) (A4) (A4) (A4) (A4) (A4) (A4	al Image  Cho  Yes  Yes  Yes  Yes	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in Te not pi  Depth ( Depth (	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)									
Saturation (A3) Water Marks (B1 Sediment Deposits Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fr	(A1) (A2) (A2) (A3) (A4) (A4) (A4) (A4) (A4) (A4) (A4) (A4	al Image  Cho  Yes  Yes  Yes  Yes  Orded da	ry (B7)  eck here	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in Te not pi  Depth ( Depth (	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)									

Project/Site Falkirk Ethanol Plant Lateral (Blue F	lint Line) City/	County:	McLean	Sampling Date	e: 5/5/21
Applicant/Owner: WBI Energy Transmission,	Inc.	State:	ND	Sampling Poir	nt: 2w
Investigator(s): LT/AG		Section	on, Township	o, Range: S22	2, T145N, R81W
Landform (hillslope, terrace, etc.):	depression	Local re	elief (concav	e, convex, none):	concave
Slope (%): 0 Lat: 47.36	67399	Long:	-100.9836	25 Datum:	WGS 84
Soil Map Unit Name Tonka-Parnell comp	olex, 0 to 1 percer	nt slopes	NWI C	Classification:	PEM1C
Subregion (MLRA or LRR): F	Are climatic/hy	drologic cond	ditions of the	site typical for this time	of the year? Y
Are vegetation , soil , or hydrology	significantly	disturbed?	Are "nor	mal circumstances" pres	sent? N
Are vegetation , soil , or hydrology	naturally pro	oblematic?	(If neede	ed, explain any answers	in remarks.)
SUMMARY OF FINDINGS - Attach site	map showing	sampling	point loca	tions, transect, imp	ortant features, etc.
Hydrophytic vegetation present?	Y	Is the sa	ampled area	within a wetland?	Υ
Hydric soil present?	Y			_	
Indicators of wetland hydrology present?	Y				
Remarks: (Explain alternative procedures here of	r in a separate re	nort )			
Point taken in agricultural field. Natural vegetation	•	. ,	ased on soil	s and topography. Droug	aht conditions are present
throughout the region, and the project area is dri				1317	,
VEGETATION - Use scientific names o	f nlants				
	Absolute	Dominant	Indicator	Dominance Test Wo	rksheet
Tree Stratum (Plot size: 30 ft	) % Cover	Species	Staus	Number of Dominant S	
1				that are OBL, FACW, or	
2				Total Number of Dor	ninant
3				Species Across all S	Strata: 0 (B)
4				Percent of Dominant Sp	•
5		= Total Cover		that are OBL, FACW, or	r FAC: 0.00% (A/B)
Sapling/Shrub stratum (Plot size: 15 ft	,	- Total Cover		Prevalence Index Wo	
1				Total % Cover of:	// KSHCCt
2				OBL species 0	x 1 = 0
3				FACW species 0	x 2 = 0
4				FAC species 0	x 3 = 0
5				FACU species 0	x 4 = 0
	0	= Total Cover	•	UPL species 0	x = 0
Herb stratum (Plot size: 5 ft	)			Column totals 0	$(A) \qquad 0 \qquad (B)$
2				Prevalence Index = B/	A =
3				Hydrophytic Vegetat	ion Indicators:
4					rophytic vegetation
5				Dominance test is	· · ·
6				Prevalence index	is ≤3.0*
7				Morphogical adap	tations* (provide
8				supporting data in	Remarks or on a
9				separate sheet)	
10		= Total Cover			phytic vegetation*
Woody vine stratum (Plot size: 30 ft	\	- Total Cover		X (explain)	
1					and wetland hydrology must be isturbed or problematic
2				Hydrophytic	
	0	= Total Cover		vegetation	
% Bare Ground in Herb Statum100	<u> </u>			present?	<u>Y</u>
Remarks: (Include photo numbers here or on a s					
Natural vegetation absent due to agricultural acti	ivities and drough	t conditions.	Area assume	ed upland based on the	lack of hydric soils and
wetland hydrology indicators.					

SOIL Sampling Point: 2w

Profile Description	: (Desci	ribe to t	he dept	h neede	d to do	cument	the indi	cator o	or confirm the a	bsence of indicators.)	
		Matrix				Mottles					
Depth (Inches)	Color (	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks	
0-12	10YR	2/1	95	7.5YR	4/4	5	C	М	Loam	, , , , , , , , , , , , , , , , , , , ,	
12-30	10YR	3/1							Clay Loam		
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matri											
Hydric Soil Indi	cators:								Indicators for P	roblematic Hydric Soils:	
Histisol (A1)					, ,	ed Matrix	(S4)		cm Muck (A9)		
Histic Epipedon (	A2)				dy Redo					dox (A16) (LRR K, L, R)	
Black Histic (A3) Hydrogen Sulfide	(1.4)				pped Mai	trıx (S6) ky Minera	J /E1\		ark Surface (S7		
Stratified Layers		) F\			•	ed Matrix	` '	L	lign Plains Depr <b>72,73)</b>	ressions (F16) (LRR H, outside MLRA	
1 cm Muck (A9) (				_	leted Ma		. ,	Γ	educed Vertic	(F18)	
Depleted Below D		-	1)	√ Rec	lox Dark	Surface	(F6)		ed Parent Mate	erial (TF2)	
Thick Dark Surface	,					rk Surfac	. ,			rk Surface (TF12)	
Sandy Mucky Mir						essions (	,	Ĺ	ther (explain in	remarks)	
2.5 cm Mucky Pe 5 cm Mucky Peat						Depressi of LRR H	ons (F16		ndicators of hydrophyt	ic vegetation and weltand hydrology must be	
p cm whicky Feat	o real	. , .		-						unless disturbed or problematic	
			eck her	e if indi	cators a	re not p	resent:				
Restrictive Layer (i	t observ	red):	_								
Type:			Dep	oth (inch	es):			H	ydric soil prese	nt? <u>Y</u>	
Remarks:											
Hydric soil indicators	present	t.									
HYDROLOGY											
Wetland Hydrology	Indicate	ors.									
Primary Indicators (r			ie requir	ad: chac	k all that	(vlane			Cocondon Ind	icators (minimum of two required)	
Surface Water (A		or one	is require	eu, criec		st (B11)				icators (minimum of two required) Soil Cracks (B6)	
High Water Table	,				L	Fauna (E	313)			ly Vegetated Concave Surface (B8)	
Saturation (A3)	) (/ LZ)					•	e Odor (C	:1)		e Patterns (B10)	
Water Marks (B1	)						er Table	,	= -	d Rhizospheres on Living Roots	
Sediment Deposi	,						pheres or				
Drift Deposits (B3	. ,				-	not tilled)		J		Burrows (C8)	
Algal Mat or Crus					Presenc	e of Red	luced Iron	n (C4)		on Visible on Aerial Imagery (C9)	
Iron Deposits (B5	5)					ck Surfa			✓Geomor	phic Position (D2)	
Inundation Visible	e on Aeria	al Image	ry (B7)		Other (E	Explain in	Remark	s)		utral Test (D5)	
Water-Stained Le	eaves (B9	9)							Frost-He	eaved Hummocks (LRR F)	
		Che	eck here	if indic	ators a	re not p	resent:				
Field Observations											
Surface water prese		Yes	Ц	No			inches):				
Water table present?	?	Yes		No			inches):			licators of wetland	
Saturation present?	in a a \	Yes		No	$\checkmark$	Depth (	inches):		hy	drology present? Y	
(includes capillary fri											
Desc	ribe rec	orded da	ata (strea	am gaug	e, monit	oring we	II, aerial	photos	s, previous inspe	ctions), if available:	
Remarks:											
Wetland hydrology ir	ndicators	presen	t.								

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line) City/0	County:	McLean	Sampling Date:	5/5/21
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND	Sampling Point:	3u
Investigator(s): LT/AG	Secti	on, Township	o, Range: S22, T14	45N, R81W
Landform (hillslope, terrace, etc.): toeslope	Local r	elief (concav	e, convex, none):	convex
Slope (%): 2 Lat: 47.371020	Long:	-100.9902	02 Datum:	WGS 84
Soil Map Unit Name Falkirk loam, 0 to 3 percent slop	oes	NWI	Classification:	PEM1C
Subregion (MLRA or LRR): F Are climatic/hy	drologic con	ditions of the	site typical for this time of th	e year? Y
Are vegetation $ \boxed{\ }$ , soil $ \boxed{\ }$ , or hydrology $ \boxed{\ }$ significantly	disturbed?	Are "nor	mal circumstances" present?	<u> </u>
Are vegetation $\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$	oblematic?	(If neede	ed, explain any answers in re	marks.)
SUMMARY OF FINDINGS - Attach site map showing	sampling	point loca	tions, transect, importa	ant features, etc.
Hydrophytic vegetation present? N	Is the s	ampled area	within a wetland?	<u> </u>
Hydric soil present? N				
Indicators of wetland hydrology present? N				
Remarks: (Explain alternative procedures here or in a separate re	port.)			
Point taken in agricultural field. Natural vegetation absent. Bounda				and topography.
Drought conditions are present throughout the region, and the pro	ject area is d	Irier than is ty	pical at this time of year.	
VEGETATION - Use scientific names of plants.				
Absolute	Dominant	Indicator	Dominance Test Worksho	eet
Tree Stratum (Plot size: 30 ft ) % Cover	Species	Staus	Number of Dominant Specie	
1 2			that are OBL, FACW, or FAC	
3			Total Number of Dominar Species Across all Strata	
4			Percent of Dominant Specie	``
5			that are OBL, FACW, or FAC	
0	= Total Cove			
Sapling/Shrub stratum (Plot size: 15 ft )			Prevalence Index Worksh	neet
1			Total % Cover of:	
2			· —	1 = <u>0</u> 2 = 0
			·	3 = 0
5			· —	4 = 0
	= Total Cove		UPL species 0 x	5 = 0
Herb stratum (Plot size: 5 ft )			Column totals 0 (A	0 (B)
1			Prevalence Index = B/A =	
2			The best of West of the L	P4
3			Hydrophytic Vegetation I Rapid test for hydrophy	
5	-		Dominance test is >50	<del>-</del>
6			Prevalence index is ≤3	
7			Morphogical adaptation	ns* (provide
8			supporting data in Ren	**
9			separate sheet)	
10			Problematic hydrophyt	ic vegetation*
	= Total Cove	ſ	(explain)	
Woody vine stratum (Plot size: 30 ft )			*Indicators of hydric soil and we present, unless disturbe	
			Hydrophytic	ou or problemate
	= Total Cove	r	vegetation	
% Bare Ground in Herb Statum100			present? N	_
Remarks: (Include photo numbers here or on a separate sheet)	1 Per			
Natural vegetation absent due to agricultural activities and drough wetland hydrology indicators.	it conditions.	Area assume	ed upland based on the lack	of hydric soils and
wotana nyarology maioators.				

SOIL Sampling Point: 3u

Profile Description	: (Desci	ribe to t	he dept	h neede	d to do	cument	the indi	cator o	r confirm the a	bsence of indicators.)			
		Matrix				Mottles							
Depth (Inches)	Color (	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks			
0-17	10YR	2/1	,,,	00.0.	(	,,,	. , , , ,		Loam	, terriainte			
17-20	10YR	2/1							Clay				
Type: C = Concentra		Depleti	ion, RM	= Reduc	ed Matri	ix, MS =	Masked			cation: PL = Pore Lining, M = Matri:			
Hydric Soil Ind	icators:									roblematic Hydric Soils:			
Histisol (A1)	(4.0)				idy Gleye		(S4)	Ļ	cm Muck (A9)				
Histic Epipedon ( Black Histic (A3)	,				idy Redo pped Ma			Ļ	oast Prairie Re ark Surface (S7	dox (A16) (LRR K, L, R)			
Hydrogen Sulfide					my Muck	. ,	al (F1)	-		ressions (F16) (LRR H, outside MLRA			
Stratified Layers		RF)			my Gley			L	72,73)	Coolerie (1 10) (Litterii, Galeide IIILiteri			
1 cm Muck (A9)					leted Ma	` ,			_educed Vertic	` '			
Depleted Below I		ace (A1	1)		lox Dark		` '	L	ed Parent Mate	` /			
Thick Dark Surfa	, ,	`			oleted Da		` ,	L		rk Surface (TF12)			
Sandy Mucky Mii 2.5 cm Mucky Pe			RR G H)		lox Depre	,	ro) lons (F16	:) L	ther (explain in	remarks)			
	5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72, 73 of LRR H)  *Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic												
Check here if indicators are not present:   Restrictive Layer (if observed):													
Type: Dense clay Depth (inches): 20 <b>Hydric soil present? N</b>													
Remarks:													
	at 20 inch	nes Are	a assum	ed upla	nd based	d on slor	oina topo	graphy	lack of hydrolog	gy indicators, and evidence of			
healthy crops based					ia bacci	2 011 010p	mig topo	grapity	, idok or riyarolo	gy maioatore, and evidence er			
	·												
HYDROLOGY													
Wetland Hydrology													
Primary Indicators (		of one	<u>is requir</u>	ed; chec						icators (minimum of two required)			
Surface Water (A	,			<u> </u>	l.	ıst (B11)	- 40\			Soil Cracks (B6)			
High Water Table	e (A2)			<u> </u>	Aquatic	•		24)		ly Vegetated Concave Surface (B8)			
Saturation (A3) Water Marks (B1	\			F			e Odor (C er Table		= -	e Patterns (B10) d Rhizospheres on Living Roots			
Sediment Depos				F	-		pheres or	. ,					
Drift Deposits (B:	, ,				-	not tilled)		ii Liviiig	, , ,	Burrows (C8)			
Algal Mat or Crus					_		luced Iron	n (C4)		on Visible on Aerial Imagery (C9)			
Iron Deposits (B5						ick Surfa		( )		phic Position (D2)			
Inundation Visible	e on Aeria	al Image	ry (B7)		Other (E	Explain in	Remark	s)	FAC-Ne	utral Test (D5)			
Water-Stained Le	eaves (B9	9)							Frost-He	eaved Hummocks (LRR F)			
		Che	eck here	if indic	ators a	re not p	resent:	<b>✓</b>					
Field Observations													
Surface water prese		Yes	Ц	No			inches):			Partage of contlant			
Water table present Saturation present?	?	Yes		No			inches):			licators of wetland /drology present? N			
(includes capillary fr	•	Yes	Ш	No	$\checkmark$	рерш (	inches):		"''	drology present? N			
	INGEL												
		orded d	ata (etro	am dalla	a monit	oring wa	all periol	nhotos	nrevious incha	ctions) if available:			
		orded da	ata (strea	am gaug	e, monit	oring we	ell, aerial	photos	, previous inspe	ctions), if available:			
Desc		orded da	ata (stre	am gaug	e, monit	oring we	ell, aerial	photos	, previous inspe	ctions), if available:			
	cribe reco			am gaug	e, monit	oring we	ell, aerial	photos	, previous inspe	ctions), if available:			

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line) Ci	ty/County:	McLean	Sampling Date: 5/5/21
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND	Sampling Point: 3w
Investigator(s): LT/AG	Section	on, Township	o, Range: S22, T145N, R81W
Landform (hillslope, terrace, etc.): depression	Local re	elief (concav	e, convex, none): concave
Slope (%): 0 Lat: 47.370993	Long:	-100.9899	32 Datum: WGS 84
Soil Map Unit Name Falkirk loam, 0 to 3 percent s	slopes	NWI C	Classification: PEM1C
Subregion (MLRA or LRR): F Are climatic	hydrologic cond	ditions of the	site typical for this time of the year?
Are vegetation , soil , or hydrology significan	tly disturbed?	Are "nor	mal circumstances" present? N
Are vegetation , soil , or hydrology naturally	problematic?	(If neede	ed, explain any answers in remarks.)
SUMMARY OF FINDINGS - Attach site map showing	ng sampling	point loca	tions, transect, important features, etc.
Hydrophytic vegetation present? Y	Is the sa	ampled area	within a wetland?
Hydric soil present?			
Indicators of wetland hydrology present? Y			
Remarks: (Explain alternative procedures here or in a separate	report.)		
Point taken in agricultural field. Natural vegetation absent. Bou	. ,	ased on cro	p stress, soils and topography. Drought
conditions are present throughout the region, and the project a	rea is drier than	is typical at t	this time of year
VEGETATION - Use scientific names of plants.			
Absolut	te Dominant	Indicator	Dominance Test Worksheet
Tree Stratum (Plot size: 30 ft ) % Cove		Staus	Number of Dominant Species
1			that are OBL, FACW, or FAC:1 (A)
2			Total Number of Dominant
3			Species Across all Strata:(B)
			Percent of Dominant Species
	= Total Cover		that are OBL, FACW, or FAC: 100.00% (A/B)
Sapling/Shrub stratum (Plot size: 15 ft )			Prevalence Index Worksheet
1			Total % Cover of:
2			OBL species 0 x 1 = 0
3			FACW species 0 x 2 = 0
4			FAC species 5 x 3 = 15
5			FACU species 0 x 4 = 0
0	= Total Cover		UPL species $0 \times 5 = 0$
Herb stratum (Plot size: 5 ft )   1 Echinochloa crus-qalli 5	Υ	EAC	Column totals $5$ (A) $15$ (B) Prevalence Index = B/A = $3.00$
1 Echinochloa crus-galli 5	T	<u>FAC</u>	Prevalence index – b/A – 3.00
3			Hydrophytic Vegetation Indicators:
4			Rapid test for hydrophytic vegetation
5	-		X Dominance test is >50%
6			X Prevalence index is ≤3.0*
7			Morphogical adaptations* (provide
8			supporting data in Remarks or on a
9			separate sheet)
10	= Total Cover		Problematic hydrophytic vegetation*
Woody vine stratum (Plot size: 30 ft )	Total Cover		(explain)
1			*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
			Hydrophytic
	= Total Cover		vegetation
% Bare Ground in Herb Statum95			present? Y
Remarks: (Include photo numbers here or on a separate sheet)	)		
Natural vegetation mostly absent due to agricultural activities.			

SOIL Sampling Point: 3w

Profile Description	: (Desc	ribe to t	he dept	n neede	d to do	cument	the indi	cator o	or confirm the a	bsence of indicators.)		
		Matrix				Mottles						
Depth (Inches)	Color	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks		
0-12	10YR	2/1	95	7.5YR	4/4	5	C	М	Clay Loam			
12-20	10YR	4/2	90	7.5YR	4/4	10	С	М	Clay Loam			
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.  **Location: PL = Pore Lining, M = Matrix  Hydric Soil Indicators:  Indicators for Problematic Hydric Soils:												
Hydric Soil Indicators:  Indicators for Problematic Hydric Soils:  Sandy Gleved Matrix (S4)  Com Muck (A9) (LRR L.)												
Histisol (A1) Sandy Gleyed Matrix (S4) Cm Muck (A9) (LRR I,J) Histic Epipedon (A2) Sandy Redox (S5) Coast Prairie Redox (A16) (LRR K, L, R)												
	,				dy Redo oped Ma							
Black Histic (A3) Hydrogen Sulfide					•	ky Minera	al (F1)	-	ark Surface (S	ressions (F16) (LRR H, outside MLRA		
Stratified Layers	. ,	? F)				ed Matrix		L	iigii Fiailis Depi 72,73)	essions (F10) (LRK H, outside WLKA		
1 cm Muck (A9) (					leted Ma		( )	Γ	educed Vertic	(F18)		
✓Depleted Below [	Dark Surf	ace (A11	1)	√ Red	ox Dark	Surface	(F6)		ed Parent Mate	` '		
Thick Dark Surfa	,					rk Surfac	` '		<b>_</b> ·	rk Surface (TF12)		
Sandy Mucky Mir	` .	,				essions (	,	L	ther (explain in	remarks)		
2.5 cm Mucky Pe 5 cm Mucky Pear						Depressi <b>of LRR H</b>	ons (F16		ndicators of hydrophyt	ic vegetation and weltand hydrology must be		
p cili Mucky Fea	l OI Feat	• •								ınless disturbed or problematic		
Destrictive Lever /	£ -1		eck her	e if indi	cators a	re not p	resent:					
Restrictive Layer (if observed):												
Type:				th (inch	es):			н	ydric soil prese	nt?Y		
Remarks:												
Hydric soil indicators	s present	t.										
HYDROLOGY												
Wetland Hydrology	Indicat	ors:										
Primary Indicators (r			s require	ed: chec	k all that	annly)			Secondary Ind	icators (minimum of two required)		
Surface Water (A		OI OIIC I	<u> 5 roquire</u>		Salt Cru					Soil Cracks (B6)		
High Water Table	,					Fauna (E	313)			ly Vegetated Concave Surface (B8)		
Saturation (A3)	3 (712)					•	e Odor (C	21)		e Patterns (B10)		
Water Marks (B1	)						er Table		=	d Rhizospheres on Living Roots		
Sediment Deposi							oheres o	. ,				
Drift Deposits (B3						ot tilled)		9		Burrows (C8)		
Algal Mat or Crus	•						uced Iro	n (C4)		on Visible on Aerial Imagery (C9)		
Iron Deposits (B5						ck Surfa		` ,		phic Position (D2)		
Inundation Visible		al Image	ry (B7)				Remark	s)		utral Test (D5)		
Water-Stained Le		_	. ,		,			•		eaved Hummocks (LRR F)		
		Che	eck here	if indic	ators ar	e not p	resent:	Γ				
	Check here if indicators are not present: Field Observations:											
Surface water prese												
	nt?	Yes		No	$\checkmark$		inches):					
Water table present	nt?	Yes Yes		No No	✓ ✓	Depth (	inches):			licators of wetland		
Saturation present?	nt? ?				✓ ✓ ✓	Depth (				licators of wetland rdrology present? Y		
Saturation present? (includes capillary fr	nt? ? inge)	Yes Yes		No No	<b>V</b>	Depth ( Depth (	inches): inches):		hy	rdrology present? Y		
Saturation present? (includes capillary fr	nt? ? inge)	Yes Yes	ata (strea	No No	<b>V</b>	Depth ( Depth (	inches): inches):	photos	hy			
Saturation present? (includes capillary fr	nt? ? inge)	Yes Yes	ata (strea	No No	<b>V</b>	Depth ( Depth (	inches): inches):	photos	hy	rdrology present? Y		
Saturation present? (includes capillary fr	nt? ? inge)	Yes Yes	ata (strea	No No	<b>V</b>	Depth ( Depth (	inches): inches):	photos	hy	rdrology present? Y		
Saturation present? (includes capillary fr Desc	nt? ? inge) cribe rec	Yes Yes orded da		No No	<b>V</b>	Depth ( Depth (	inches): inches):	photos	hy	rdrology present? Y		

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint	Line) City	//County:	McLear	n Sampling Date	5/5/21
Applicant/Owner: WBI Energy Transmission, Inc.		State:	ND	Sampling Point	:: 4u
Investigator(s): LT/AG		Section	on, Townshi	p, Range: S21,	T145N, R81W
Landform (hillslope, terrace, etc.): hil	Islope	Local re	elief (concav	re, convex, none):	convex
Slope (%): 2 Lat: 47.3708	39	Long:	-101.0038	04 Datum:	WGS 84
Soil Map Unit Name Roseglen silt loam, 0	to 2 percent	slopes	NWI	Classification:	-
Subregion (MLRA or LRR): F	Are climatic/h	nydrologic cond	ditions of the	site typical for this time	of the year? Y
Are vegetation , soil , or hydrology	significantl	y disturbed?	Are "nor	mal circumstances" pres	ent? N
Are vegetation , soil , or hydrology	naturally p	roblematic?	(If neede	ed, explain any answers i	n remarks.)
SUMMARY OF FINDINGS - Attach site ma	ap showing	g sampling	point loca	tions, transect, imp	ortant features, etc.
Hydrophytic vegetation present?	N_	Is the sa	ampled area	a within a wetland?	N
Hydric soil present?	N			_	
Indicators of wetland hydrology present?	V				
Remarks: (Explain alternative procedures here or in	a separate r	report.)			
Point taken in agricultural field. Natural vegetation a			ased on soil	ls and topography. Droug	ht conditions are present
throughout the region, and the project area is drier t	han is typica	I at this time of	f year		
VEGETATION - Use scientific names of p	lants.				
·	Absolute	Dominant	Indicator	Dominance Test World	ksheet
Tree Stratum (Plot size: 30 ft )	% Cover	Species	Staus	Number of Dominant Sp	ecies
1	_			that are OBL, FACW, or	FAC: 0 (A)
2				Total Number of Dom	
3				Species Across all S	`` ′
4				Percent of Dominant Sp that are OBL, FACW, or	
<u> </u>		= Total Cover	<del></del>	that are OBL, FACVV, or	FAC: 0.00% (A/B)
Sapling/Shrub stratum (Plot size: 15 ft	)	-		Prevalence Index Wo	rksheet
1				Total % Cover of:	
2				OBL species 0	x 1 = 0
3	_			FACW species 0	x 2 = 0
4	_			FAC species 0	_ x 3 =0
5		- Total Caver		FACU species 0 UPL species 0	x = 0
<u>Herb stratum</u> (Plot size: 5 ft	,0	=Total Cover		UPL species 0 Column totals 0	-x5 = 0 (A) 0 (B)
1	_'			Prevalence Index = B/A	_ ` ` ` ` `
2	_				·
3				Hydrophytic Vegetation	on Indicators:
4	_			Rapid test for hydro	· ·
5				Dominance test is	
6				Prevalence index is	
8				Morphogical adapt	
9				supporting data in separate sheet)	Remarks of on a
10	_	_		Problematic hydror	ohytic vegetation*
	0	= Total Cover		(explain)	ny no vogotanon
Woody vine stratum (Plot size: 30 ft	)	=		*Indicators of hydric soil ar	nd wetland hydrology must be
1				•	turbed or problematic
2	_			Hydrophytic	
% Bare Ground in Herb Statum	0	= Total Cover	•	vegetation	N
	oroto chast			present?	N
Remarks: (Include photo numbers here or on a sepa Natural vegetation absent due to agricultural activition wetland hydrology indicators.	,	ht conditions.	Area assum	ed upland based on the la	ack of hydric soils and

SOIL Sampling Point: 4u

Profile Description	ı: (Desc	ribe to t	he dept	h neede	d to do	cument	the indi	cator c	or confirm the a	bsence of indicators.)
-	T	Matrix	_			Mottles				
Depth (Inches)	Color	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks
0-8	10YR	2/1	100	<u> </u>	(1110101)	1 12	175-		Clay	1011.5
8-16	10YR	4/3	100						Clay	
<u> </u>	1.0					<del>                                     </del>			<b>-</b> ,	
	+	<del>                                     </del>	<del>                                     </del>		<del>                                     </del>	<del>                                     </del>	<u> </u>			
	+	<del>                                     </del>	<del>                                     </del>		<del>                                     </del>	<del>                                     </del>	<u> </u>			
	+	<del>                                     </del>	<del>                                     </del>		<del>                                     </del>	<del>                                     </del>	<u> </u>			
	+	<del>                                     </del>	<del>                                     </del>	<b>—</b>	<del>                                     </del>	<del>                                     </del>				
	+	<del>                                     </del>	<del>                                     </del>	<del>                                     </del>	<del>                                     </del>	1				
Type: C = Concentra	ation, D =	L = Deplet	ion. RM	= Reduc	ed Matr	ix. MS =	Masked	Sand	L Grains. **Lo	<u>l</u> cation: PL = Pore Lining, M = Matri
Hydric Soil Ind		<del>-</del>	,	• • •		D.,	*****			Problematic Hydric Soils:
Histisol (A1)				∏Sar	ndy Gleye	ed Matrix	(S4)	Γ	cm Muck (A9)	-
Histic Epipedon	(A2)				ndy Redo		,	Ĭ		dox (A16) (LRR K, L, R)
Black Histic (A3)					pped Ma				ark Surface (S	7) (LRR K, L)
Hydrogen Sulfide				_	,	ky Minera	` '			ressions (F16) (LRR H, outside MLRA
Stratified Layers						ed Matrix		_	72,73)	
1 cm Muck (A9)			43			atrix (F3)		ļ	educed Vertic	` '
Depleted Below			1)			Surface ark Surface		}	ed Parent Mate	
Thick Dark Surfa Sandy Mucky Mi	, ,					essions (	` '	}	ther (explain in	rk Surface (TF12)
2.5 cm Mucky Pe			RR G.H)			Depressi	` '	۶) ۲		Tellidiks)
5 cm Mucky Pea						of LRR H				tic vegetation and weltand hydrology must be
<u> </u>		. , .	eck her						present, u	unless disturbed or problematic
Restrictive Layer (	if ohser		ECK HEL	e II IIIui	Cators a	TIE HOLF	Tesent.			
Type:	II ODGG	reaj.	Der	oth (inch	<b>△</b> e).			Н	ydric soil prese	nt? N
				ли (птогт				• •	yurio son prese	
Remarks:	boont									
Hydric soil indicator	S absent	•								
<u></u>							<u> </u>			
HYDROLOGY										
Wetland Hydrology	y Indicat	ors:								
Primary Indicators (	min <u>imum</u>	ı of <u>one</u>	is r <u>equir</u> e	ed; <u>chec</u>	k a <u>ll tha</u>	t a <u>pply)</u>			Secondary Ind	icators (minimum of two required)
Surface Water (A						ust (B11)				Soil Cracks (B6)
High Water Table	,				1	Fauna (I				ely Vegetated Concave Surface (B8)
Saturation (A3)	` ,				= '	en Sulfide		C1)		e Patterns (B10)
Water Marks (B1	1)					ason Wat	•	•	= -	d Rhizospheres on Living Roots
Sediment Depos	-				Oxidize	d Rhizos	pheres o	n Living	(tilled) (	C3)
Drift Deposits (B					Roots (r	not tilled)	(C3)		Crayfish	Burrows (C8)
Algal Mat or Crus					]Presend	ce of Red	duced Iro	n (C4)	Saturati	on Visible on Aerial Imagery (C9)
Iron Deposits (B					Thin Mu	uck Surfa	ice (C7)		Geomor	phic Position (D2)
Inundation Visibl		_	ry (B7)		]Other (E	Explain in	n Remark	s)	_	eutral Test (D5)
Water-Stained L	eaves (B	9)							Frost-He	eaved Hummocks (LRR F)
		Che	eck here	if indic	ators a	re not p	resent:	<b>✓</b>		
Field Observations										
Surface water prese		Yes		No	<b>✓</b>		inches):			
Water table present		Yes		No	✓		inches):		-	licators of wetland
Saturation present?		Yes		No	<b>✓</b>	Depth (	inches):		hy	/drology present? N
(includes capillary fr										
Des	cribe rec	orded da	ata (strea	ım gaug	e, monit	toring we	ell, aerial	photos	s, previous inspe	ctions), if available:
Remarks:										
Wetland hydrology i	indicators	s absent								
1										

Project/Site Falkirk Ethanol Plant Lateral (Blue F	lint Line) City/	County:	McLean	Sampling D	Oate: 5/5/21
Applicant/Owner: WBI Energy Transmission, I	nc.	State:	ND	Sampling Po	oint: 4w
Investigator(s): LT/AG		Section	on, Township	, Range:	S21, 145N, R81W
Landform (hillslope, terrace, etc.):	lepression	Local re	elief (concave	e, convex, none):	concave
Slope (%): 0 Lat: 47.37	71011	Long:	-101.00335	53 Datum:	WGS 84
Soil Map Unit Name Tonka-Parnell comp	lex, 0 to 1 perce	nt slopes	NWI C	Classification:	-
Subregion (MLRA or LRR): F	Are climatic/h	ydrologic cond	ditions of the	site typical for this tim	ne of the year? Y
Are vegetation , soil , or hydrology	significantly	disturbed?	Are "norr	mal circumstances" pı	resent? N
Are vegetation , soil , or hydrology	naturally pr	oblematic?	(If neede	d, explain any answe	rs in remarks.)
<b>SUMMARY OF FINDINGS - Attach site</b>	map showing	sampling	point locat	tions, transect, in	nportant features, etc.
Hydrophytic vegetation present?	Υ	Is the sa	ampled area	within a wetland?	Y
Hydric soil present?	Υ				
Indicators of wetland hydrology present?	Υ				
Remarks: (Explain alternative procedures here o	r in a separate re	eport.)			
Point taken in agricultural field. Natural vegetatio	•	. ,	ased on soils	s and topography. Dro	ought conditions are present
throughout the region, and the project area is drie	er than is typical	at this time of	year		
VEGETATION - Use scientific names of	f plants.				
	Absolute	Dominant	Indicator	Dominance Test W	/orksheet
Tree Stratum (Plot size: 30 ft	) % Cover	Species	Staus	Number of Dominant	Species
1				that are OBL, FACW,	, or FAC: 0 (A)
2				Total Number of D	
3	<del></del>			Species Across a	
5		·		Percent of Dominant that are OBL, FACW,	•
<u> </u>		= Total Cover		that are ODE, I AOVV,	(A/B)
Sapling/Shrub stratum (Plot size: 15 ft	)		ŀ	Prevalence Index V	Worksheet
1				Total % Cover of:	
2				OBL species	0 x 1 = 0
3				· · ·	0 x 2 = 0
4					$\frac{0}{2}$ x 3 = $\frac{0}{2}$
5		= Total Cover	<del> </del>		$\frac{0}{0} \times 4 = \frac{0}{0}$
Herb stratum (Plot size: 5 ft	,	- Total Cover			$\frac{0}{0}$ (A) $\frac{0}{0}$ (B)
1	<u> </u>			Prevalence Index =	
2	<del></del>				·
3				Hydrophytic Veget	ation Indicators:
4					ydrophytic vegetation
5				Dominance test	
6				Prevalence inde	ex is ≤3.0*
8					aptations* (provide
9				supporting data separate sheet)	in Remarks or on a
10	<del></del>				drophytic vegetation*
	0	= Total Cover		X (explain)	nopriyile vegetation
Woody vine stratum (Plot size: 30 ft	)	•			oil and wetland hydrology must be
1				•	s disturbed or problematic
2				Hydrophytic	
0/ Poro Cround in Llash Status 400	0	= Total Cover		vegetation	V
% Bare Ground in Herb Statum 100	oparata sheet			present?	<u>Y</u>
Remarks: (Include photo numbers here or on a s Natural vegetation absent due to agricultural acti soils and wetland hydrology indicators.		nt conditions.	Area assume	ed hydrophytic based	on the presence of hydric

SOIL Sampling Point: 4w

Profile Description:	(Desci	ribe to t	he dept	n neede	d to doc	cument	the indi	cator o	r confirm the a	bsence of indicators.)				
		Matrix			ı	Mottles								
Depth (Inches)	Color (	(moist)	%	Color (	(moist)	%	Type*	Loc**	Texture	Remarks				
0-8	10YR	2/1	100				71		Loam					
8-11	10YR	2/1	30						Clay Loam					
8-11	10YR	4/2	65	7.5YR	4/4	5	С	М	Clay Loam					
11-20	10YR	5/1	95	10YR	4/6	5	С	М	Clay					
	ype: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix													
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.  **Location: PL = Pore Lining, M = Matrix  Hydric Soil Indicators:  Indicators for Problematic Hydric Soils:														
Hydric Soil Indicators:    Histisol (A1)   Sandy Gleyed Matrix (S4)   cm Muck (A9) (LRR I,J)														
Histic Epipedon (A2) Sandy Redox (S5) oast Prairie Redox (A16) (LRR K, L, R)														
Black Histic (A3) Stripped Matrix (S6) ark Surface (S7) (LRR K, L)														
Hydrogen Sulfide	(A4)				my Muck	, ,	al (F1)		_	ressions (F16) (LRR H, outside MLRA				
Stratified Layers (	. , .	•			my Gleye		(F2)	_	72,73)	, , ,				
1 cm Muck (A9) (			4.		leted Ma	` '	(50)		educed Vertic					
✓ Depleted Below D Thick Dark Surface		ace (AT	1)		lox Dark leted Da		` '		ed Parent Mate	rk Surface (TF12)				
Sandy Mucky Mir	, ,	)			lox Depre		` '	Ĺ	ther (explain in	` ,				
			RR G,H)			,	,	5)		,				
2.5 cm Mucky Peat or Peat (S2) (LRR G,H) High Plains Depressions (F16) (MLRA 72, 73 of LRR H) *Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic														
		Ch	eck her	e if indi	cators a	re not p	resent:		prosont, c	miess distribed of problematio				
Restrictive Layer (if	observ	red):												
Type: Depth (inches): Hydric soil present? Y														
Remarks:														
Hydric soil indicators	present	t.												
	-													
HYDROLOGY														
Wetland Hydrology	Indicate	arc:												
			:	- d. choo	!- all that	·\/\			2	· · · · · · · · · · · · · · · · · · ·				
Primary Indicators (n		or one i	s require	er; cneci						icators (minimum of two required)				
Surface Water (A	,			닏	L	ıst (B11) Fauna (E	2121			Soil Cracks (B6) ly Vegetated Concave Surface (B8)				
Saturation (A3)	(MZ)					rauna (c en Sulfide		:1)	=	e Patterns (B10)				
Water Marks (B1)	)					son Wat			=	d Rhizospheres on Living Roots				
Sediment Deposi	,					d Rhizosp		` '						
Drift Deposits (B3	3) ` ´				-	not tilled)		J	:	Burrows (C8)				
Algal Mat or Crus	t (B4)				Presenc	e of Red	uced Iro	n (C4)	✓ Saturation	on Visible on Aerial Imagery (C9)				
Iron Deposits (B5						ick Surfa			✓Geomor	phic Position (D2)				
Inundation Visible		0	ry (B7)		Other (E	Explain in	Remark	s)		utral Test (D5)				
Water-Stained Le	aves (B9	<del>}</del> )							Frost-He	eaved Hummocks (LRR F)				
		Che	eck here	if indic	ators ar	e not p	resent:	L						
Field Observations		V		NI-		Dante /	:							
Surface water present		Yes Yes	H	No No	넴	Depth (i			<sub>Inc</sub>	licators of wetland				
Water table present? Saturation present?	Į.	Yes	$\mathbb{H}$	No No	띩	Depth (i				drology present?				
(includes capillary fri	nge)	163		NO	<u> </u>	Deptii (i			'''	Tarology present:				
		orded da	ata (stre:	am dalid	e monit	oring we	ıll aerial	nhotos	nrevious inspe	ctions), if available:				
	7100 100	<del>Jidod de</del>	114 (01100	iii gaag	<u> </u>	ornig wo	ii, aoriai	priotoc	, providuo iriopo	ononoj, ii uvanabio.				
D														
Remarks:	- dia atore		1											
Wetland hydrology ir	luicators	presen	ι.											

Project/Site Falkirk Ethanol Plant Lateral (Blue F	Flint Line) City/	County:	McLean	Sampling Date:	5/6/21	
Applicant/Owner: WBI Energy Transmission,	Inc.	State:	ND	Sampling Point:	Point: 5u	
Investigator(s): LT/AG		Section	on, Township	, Range: S16,	T145N, R81W	
Landform (hillslope, terrace, etc.):	toeslope	Local re	elief (concav	e, convex, none):	convex	
Slope (%): 3 Lat: 47.3	7522	Long:	-101.0035	66 Datum:	WGS 84	
Soil Map Unit Name Roseglen silt loan	n, 0 to 2 percent	slopes	NWI (	Classification:	L2ABG	
Subregion (MLRA or LRR): F	Are climatic/hy	drologic cond	ditions of the	site typical for this time o	of the year? Y	
Are vegetation, soil, or hydrology	significantly	disturbed?	Are "nor	mal circumstances" prese	ent? Y	
Are vegetation , soil , or hydrology	naturally pro	oblematic?	(If neede	ed, explain any answers ir	n remarks.)	
<b>SUMMARY OF FINDINGS - Attach site</b>	map showing	sampling	point loca	tions, transect, impo	ortant features, etc.	
Hydrophytic vegetation present?	N	Is the sa	ampled area	within a wetland?	N	
Hydric soil present?	N					
Indicators of wetland hydrology present?	N					
Remarks: (Explain alternative procedures here of Point taken next to a large lake.	•	port.)				
VEGETATION - Use scientific names o	•					
Tree Street in /Diet size: 20 ft	Absolute	Dominant	Indicator	Dominance Test Work		
Tree Stratum (Plot size: 30 ft	_) % Cover	Species	Staus	Number of Dominant Spethat are OBL, FACW, or I		
2				Total Number of Domi	`` '	
3				Species Across all St		
4				Percent of Dominant Spe	ecies	
5				that are OBL, FACW, or I	FAC: 0.00% (A/B)	
	0	= Total Cover	-			
Sapling/Shrub stratum (Plot size: 15 ft 1	)			Prevalence Index Wor	ksheet	
2				Total % Cover of: OBL species 0	x 1 = 0	
3				FACW species 0	$-x^{1-} = 0$ $x^{2} = 0$	
4				FAC species 0	x 3 = 0	
5				FACU species 0	x 4 = 0	
	0	= Total Cover	-	UPL species 100	x 5 = 500	
Herb stratum (Plot size: 5 ft	)			Column totals 100	(A) 500 (B)	
1 Bromus inermis	100	<u> </u>	UPL	Prevalence Index = B/A	X = 5.00	
2				Hydrophytic Vegetation	n Indicatoro	
3				Rapid test for hydro		
5				Dominance test is >		
6				Prevalence index is	s ≤3.0*	
7				Morphogical adapta	ations* (provide	
8				supporting data in F		
9				separate sheet)		
10				Problematic hydrop	hytic vegetation*	
Woody vine stratum (Plot size: 30 ft	100	= Total Cover		(explain)		
1	/				d wetland hydrology must be turbed or problematic	
2				Hydrophytic	and or problemation	
	0	= Total Cover		vegetation		
% Bare Ground in Herb Statum0	_			present?	N	
Remarks: (Include photo numbers here or on a s	separate sheet)					
Upland vegetation dominates.						

SOIL Sampling Point: 5u

<b>Profile Description</b>	: (Desci	ribe to t	he dept	h neede	d to do	cument	the indi	cator o	or confirm the a	bsence of indicators.)			
		Matrix				Mottles							
Depth (Inches)	Color (	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks			
0-8	10YR	2/1	100	00.01	(1110101)	,,,	1,750	200	Loam	rtemante			
8-16	10YR	4/4	100						Clay Loam				
Type: C = Concentra	tion, D =	Depleti	on, RM	= Reduc	ed Matri	x, MS =	Masked	Sand (	Grains. **Lo	cation: PL = Pore Lining, M = Matri:			
Hydric Soil Indicators: Indicators for Problematic Hydric Soils:													
Histisol (A1)				San	dy Gleye	ed Matrix	(S4)	Г	cm Muck (A9)	_			
Histic Epipedon (	A2)				dy Redo		,			dox (A16) (LRR K, L, R)			
Black Histic (A3)				Stri	oped Ma	trix (S6)			ark Surface (S7	7) (LRR K, L)			
Hydrogen Sulfide	` '				my Muck	•	` ,		igh Plains Depr	ressions (F16) (LRR H, outside MLRA			
Stratified Layers					my Gley			_	72,73)	(540)			
1 cm Muck (A9) (			1)		leted Ma	, ,		-	educed Vertic	` ,			
Depleted Below I Thick Dark Surfa		ace (AT	1)		lox Dark leted Da		` '	 	ed Parent Mate	rk Surface (TF12)			
Sandy Mucky Mir	,	)		'	lox Depre		` '	Ĺ	ther (explain in				
2.5 cm Mucky Pe			RR G.H)		•	,	ons (F16	i)	urior (explain iii	Terriance)			
5 cm Mucky Peat					RA 72, 73					tic vegetation and weltand hydrology must be			
		Ch	eck her	e if indi	cators a	re not n	resent:	[/]	present, u	unless disturbed or problematic			
Restrictive Laver (i	Check here if indicators are not present:  Restrictive Layer (if observed):												
Type: Depth (inches): Hydric soil present? N													
Remarks:    Comparison of the content of the conten													
	abaant												
Hydric soil indicators	auseni.												
HYDROLOGY													
Wetland Hydrology	Indicat	ors:											
Primary Indicators (r	ninimum	of one	s require	ed; chec	k all that	apply)			Secondary Ind	icators (minimum of two required)			
Surface Water (A	.1)		•		Salt Cru	st (B11)			Surface	Soil Cracks (B6)			
High Water Table	(A2)				Aquatic	Fauna (E	313)		Sparse	ely Vegetated Concave Surface (B8)			
Saturation (A3)	, ,				Hydroge	n Sulfide	e Odor (C	21)	Drainag	e Patterns (B10)			
Water Marks (B1	)				Dry Sea	son Wat	er Table	(C2)	Oxidized	d Rhizospheres on Living Roots			
Sediment Deposi	ts (B2)				Oxidized	d Rhizos <sub>l</sub>	pheres o	n Living	(tilled) (0	C3)			
Drift Deposits (B3	3)				Roots (r	not tilled)	(C3)		Crayfish	Burrows (C8)			
Algal Mat or Crus					:		luced Iro	n (C4)		on Visible on Aerial Imagery (C9)			
Iron Deposits (B5						ck Surfa				phic Position (D2)			
Inundation Visible		Ū	ry (B7)		Other (E	xplain in	Remark	s)		eutral Test (D5)			
Water-Stained Le	eaves (B9	9)							Frost-He	eaved Hummocks (LRR F)			
		Che	eck here	if indic	ators a	e not p	resent:	<b>✓</b>					
Field Observations		.,											
Surface water prese		Yes	Ц	No	$\square$		inches):			liantana af watlaw l			
Water table present	<b>!</b>	Yes	Ц	No	$\square$		inches):			licators of wetland			
Saturation present?	ingo\	Yes	Ш	No	$ \checkmark $	Debtu (	inches):		hy	/drology present? N			
(includes capillary fri													
Desc	ribe rec	orded da	ata (strea	am gaug	e, monit	oring we	ıı, aerial	photos	s, previous inspe	ctions), if available:			
Remarks:													
Wetland hydrology i	ndicators	absent	-										
Ī													

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line) City/O	County:	McLean	Sampling Date:	5/6/21
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND	Sampling Point:	5w
Investigator(s): LT/AG	Section	on, Township	o, Range: S16, T14	5N, R81W
Landform (hillslope, terrace, etc.): depression	Local re	elief (concav	re, convex, none):	oncave
Slope (%): 0 Lat: 47.375273	Long:	-101.0035	84 Datum:	WGS 84
Soil Map Unit Name Wamduska low precipitation-Mauvais	complex	NWI	Classification: L	.2ABG
Subregion (MLRA or LRR): F Are climatic/hyd	drologic cond	litions of the	site typical for this time of the	e year? Y
Are vegetation , soil , or hydrology significantly	disturbed?	Are "nor	mal circumstances" present?	N
Are vegetation $\  \  \  \  \  \  \  \  \  \  \  \  \ $	blematic?	(If neede	ed, explain any answers in rer	marks.)
SUMMARY OF FINDINGS - Attach site map showing	sampling p	point loca	tions, transect, importa	nt features, etc.
Hydrophytic vegetation present? Y	Is the sa	ampled area	within a wetland? Y	
Hydric soil present? Y				
Indicators of wetland hydrology present? Y				
Remarks: (Explain alternative procedures here or in a separate re	port.)			
Point taken on shoreline of large lake.				
VEGETATION - Use scientific names of plants.				
Absolute	Dominant	Indicator	Dominance Test Workshe	et
<u>Tree Stratum</u> (Plot size: <u>30 ft</u> ) % Cover	Species	Staus	Number of Dominant Species	
			that are OBL, FACW, or FAC	
3			Total Number of Dominan Species Across all Strata	
			Percent of Dominant Species	``
5			that are OBL, FACW, or FAC	
	Total Cover			
Sapling/Shrub stratum (Plot size: 15 ft )			Prevalence Index Worksh	eet
1			Total % Cover of:	
2			OBL species 0 x 1	
3			FACW species 0 x 2 FAC species 0 x 3	
			FAC species 0 x 3 FACU species 0 x 4	
	Total Cover		UPL species 0 x 5	
Herb stratum (Plot size: 5 ft )			Column totals 0 (A)	
1			Prevalence Index = $B/A$ =	``
2				
3			Hydrophytic Vegetation Ir	
			Rapid test for hydrophy	•
5			Dominance test is >50%  Prevalence index is ≤3.	
7			<del></del>	
8			Morphogical adaptation supporting data in Rem	**
9			separate sheet)	a
10			Problematic hydrophyti	c vegetation*
0 =	Total Cover		X (explain)	
Woody vine stratum (Plot size: 30 ft )			*Indicators of hydric soil and we	
1			present, unless disturbe	d or problematic
2	Total Cover		Hydrophytic vegetation	
% Bare Ground in Herb Statum	- Total Cover		present? Y	
Remarks: (Include photo numbers here or on a separate sheet)				-
Vegetation absent due to lake. Assume wetland based on hydric s	oil indicators	and wetland	d hydrology indicators.	

SOIL Sampling Point: 5w

Profile Description	: (Desc	ribe to t	he depti	n neede	d to do	cument	the indi	cator o	r confirm the a	bsence of indicators.)		
		Matrix				Mottles						
Depth (Inches)	Color	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks		
0-2		,	100		,		- / 1		Loam			
2-12	Gley 2	3/5BG	100						Clay Loam			
	,											
Type: C = Concentra	tion, D =	Depleti	on, RM	= Reduc	ed Matri	x, MS =	Masked	Sand (	Grains. **Lo	cation: PL = Pore Lining, M = Matri		
Hydric Soil Indicators: Indicators for Problematic Hydric Soils:												
Histisol (A1)				San	dy Gleye	ed Matrix	(S4)	Г	cm Muck (A9)	-		
Histic Epipedon (	A2)				dy Redo				oast Prairie Re	dox (A16) ( <b>LRR K, L, R</b> )		
Black Histic (A3)					oped Ma	. ,			ark Surface (S7			
Hydrogen Sulfide	. ,				my Muck					ressions (F16) (LRR H, outside MLRA		
Stratified Layers					my Gley		(F2)	Г	72,73)	/F19\		
1 cm Muck (A9) ( Depleted Below I			1		leted Ma lox Dark	` ,	(E6)	-	educed Vertic ed Parent Mate	` '		
Thick Dark Surfa		ace (AT	,		leted Da		` '			rk Surface (TF12)		
Sandy Mucky Mir	,	)		:	lox Depre		` '	-	ther (explain in	` '		
			RR G,H)		•	,	,	5) L		,		
2.5 cm Mucky Peat or Peat (S2) (LRR G,H) High Plains Depressions (F16) 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72, 73 of LRR H) *Indicators of hydrophytic vegetation and weltand hydrology must be												
		Ch	eck her	e if indi	cators a	re not p	resent:	П	present, t	unless disturbed or problematic		
Restrictive Layer (i	f observ	red):										
Type: Depth (inches): Hydric soil present? Y												
Remarks:												
Hydric soil indicators present.												
Hydric soil indicators	s presen	t.										
	s presen	t. 										
HYDROLOGY												
HYDROLOGY	Indicat	ors:	s require	ed; chec	k all that	apply)			Secondary Ind	icators (minimum of two required)		
HYDROLOGY Wetland Hydrology	Indicat	ors:	s require	ed; chec	k all that Salt Cru				Surface	Soil Cracks (B6)		
HYDROLOGY Wetland Hydrology Primary Indicators (r Surface Water (A	r Indicat	ors:	s require			st (B11)	313)		Surface Sparse	Soil Cracks (B6) ly Vegetated Concave Surface (B8)		
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3)	r Indicat minimum (1) e (A2)	ors:	s require		Salt Cru Aquatic Hydroge	st (B11) Fauna (I en Sulfide	e Odor (C		Surface Sparse Drainage	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10)		
HYDROLOGY  Wetland Hydrology Primary Indicators (r  Surface Water (A  High Water Table Saturation (A3)  Water Marks (B1	r Indicat minimum (1) e (A2)	ors:	s require		Salt Cru Aquatic Hydroge Dry Sea	st (B11) Fauna (I en Sulfide son Wat	e Odor (C er Table	(C2)	Surface Sparse Drainage Oxidized	Soil Cracks (B6) lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots		
HYDROLOGY  Wetland Hydrology Primary Indicators (r  Surface Water (A  High Water Table Saturation (A3)  Water Marks (B1  Sediment Deposi	r Indicate minimum (1) e (A2) )	ors:	s require		Salt Cru Aquatic Hydroge Dry Sea Oxidized	st (B11) Fauna (I en Sulfide son Wat d Rhizos	e Odor (C er Table oheres o	(C2)	Surface Sparse Drainage Oxidized	Soil Cracks (B6) lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3)		
HYDROLOGY  Wetland Hydrology Primary Indicators (r  Surface Water (A  High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3)	r Indicat minimum 11) e (A2) ) its (B2) 3)	ors:	s require		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r	st (B11) Fauna (I en Sulfide son Wat d Rhizos not tilled)	e Odor (Cer Table oheres or (C3)	(C2) n Living	Surface Sparse Drainage Oxidized (tilled) ((	Soil Cracks (B6) lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8)		
HYDROLOGY  Wetland Hydrology Primary Indicators (r  Surface Water (A  High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Orift Deposits (B3  Algal Mat or Crus	v Indicateminimum (1) e (A2) ) its (B2) st (B4)	ors:	s require		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend	st (B11) Fauna (I en Sulfide son Wat d Rhizos not tilled) e of Red	e Odor (Cer Table oheres or (C3)	(C2) n Living	Surface Sparse Drainage Oxidized (tilled) (( Crayfish	Soil Cracks (B6) lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9)		
HYDROLOGY  Wetland Hydrology Primary Indicators (r  Surface Water (A  High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Orift Deposits (B3  Algal Mat or Crust Iron Deposits (B5	v Indicateminimum (1) e (A2) ) its (B2) 3) st (B4)	ors: of one i			Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend	st (B11) Fauna (I en Sulfide son Wat d Rhizos not tilled) ee of Red ck Surfa	e Odor (Cer Table oheres of (C3) luced Iron (C7)	(C2) n Living n (C4)	Surface Sparse Drainage Oxidized (tilled) (Crayfish Saturation Geomor	Soil Cracks (B6) lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) l Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)		
HYDROLOGY  Wetland Hydrology Primary Indicators (r  Surface Water (A  High Water Table  Saturation (A3)  Water Marks (B1  Sediment Deposit  Drift Deposits (B3  Algal Mat or Crust  Iron Deposits (B5)  Inundation Visible	r Indicat minimum (1) e (A2) ) tts (B2) 3) st (B4) 5) e on Aeric	ors: of one i			Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend	st (B11) Fauna (I en Sulfide son Wat d Rhizos not tilled) ee of Red ck Surfa	e Odor (Cer Table oheres or (C3)	(C2) n Living n (C4)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatid Geomor	Soil Cracks (B6)  lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) l Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)		
HYDROLOGY  Wetland Hydrology Primary Indicators (r  Surface Water (A  High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Orift Deposits (B3  Algal Mat or Crust Iron Deposits (B5	r Indicat minimum (1) e (A2) ) tts (B2) 3) st (B4) 5) e on Aeric	ors: of one i of lmage	ry (B7)		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu	st (B11) Fauna (Ben Sulfide son Water (B12) All Rhizos (B	e Odor (Cer Table oheres of (C3) luced Iron (C7) Remark	(C2) n Living n (C4)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatid Geomor	Soil Cracks (B6) lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) l Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)		
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le	r Indicat minimum (1) e (A2) ) its (B2) 3) st (B4) 5) e on Aeric eaves (B9	ors: of one i of lmage	ry (B7)		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend	st (B11) Fauna (Ben Sulfide son Water (B12) All Rhizos (B	e Odor (Cer Table oheres of (C3) luced Iron (C7) Remark	(C2) n Living n (C4)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatid Geomor	Soil Cracks (B6)  lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) l Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)		
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le	r Indicat minimum (1) e (A2) ) its (B2) 3) st (B4) 5) e on Aeric eaves (BS	ors: of one i	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu	st (B11) Fauna (I Fau	e Odor (Cer Table otheres of (C3) luced Irol (C7) Remark	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidizec (tilled) (Cayfish Saturation Geomor FAC-Ne Frost-He	Soil Cracks (B6)  lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) l Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)		
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Hagal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese	r Indicat minimum (1) e (A2) ) its (B2) 3) st (B4) 5) e on Aeric eaves (BS	ors:  of one i  al Image  Che	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu	st (B11) Fauna (I Fau	e Odor (Cer Table obheres of (C3) luced Iron (C7) Remark	(C2) n Living n (C4)	Surface Sparse Drainage Oxidizec (tilled) (Cayfish Saturation Geomor FAC-Ne Frost-He	Soil Cracks (B6) bly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)		
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposits (B3 Algal Mat or Crus Iron Deposits (B3 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present	r Indicat minimum (1) e (A2) ) its (B2) 3) st (B4) 5) e on Aeric eaves (BS	ors:  of one i  al Image  Che  Yes  Yes	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (I Fau	e Odor (Cer Table oberes of (C3) luced Irol ce (C7) Remark resent:	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (Cayfish Saturation Geomor FAC-Ne Frost-He	Soil Cracks (B6) bly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)		
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposits (B3 Algal Mat or Crus Iron Deposits (B3 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present?	r Indicat minimum 11) e (A2) ) its (B2) 3) st (B4) 5) e on Aeric eaves (B9) : nt? ?	ors:  of one i  al Image  Che	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu	st (B11) Fauna (I Fau	e Odor (Cer Table obheres of (C3) luced Iron (C7) Remark	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (Cayfish Saturation Geomor FAC-Ne Frost-He	Soil Cracks (B6) bly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)		
HYDROLOGY  Wetland Hydrology Primary Indicators (r  Surface Water (A  High Water Table Saturation (A3)  Water Marks (B1  Sediment Deposit Drift Deposits (B3  Algal Mat or Crus Iron Deposits (B5  Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fr	r Indicat minimum 11) e (A2) ) its (B2) 3) st (B4) 6) e on Aerie eaves (B9 : nt? ?	al Image  Che  Yes  Yes  Yes	ry (B7)	s if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (I Fau	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6)  lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)		
HYDROLOGY  Wetland Hydrology Primary Indicators (r  Surface Water (A  High Water Table Saturation (A3)  Water Marks (B1  Sediment Deposit Drift Deposits (B3  Algal Mat or Crus Iron Deposits (B5  Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fr	r Indicat minimum 11) e (A2) ) its (B2) 3) st (B4) 6) e on Aerie eaves (B9 : nt? ?	al Image  Che  Yes  Yes  Yes	ry (B7)	s if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (I Fau	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6) bly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)		
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B3 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fr	r Indicat minimum 11) e (A2) ) its (B2) 3) st (B4) 6) e on Aerie eaves (B9 : nt? ?	al Image  Che  Yes  Yes  Yes	ry (B7)	s if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (I Fau	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6)  lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)		
HYDROLOGY  Wetland Hydrology Primary Indicators (r  Surface Water (A  High Water Table Saturation (A3)  Water Marks (B1  Sediment Deposit Drift Deposits (B3  Algal Mat or Crus Iron Deposits (B5  Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fr	r Indicateminimum (1) e (A2) ) its (B2) 3) et (B4) 6) e on Aeric eaves (B9 : : : : : : : : : : : : : : : : : : :	ors: al Image b) Che Yes Yes Yes Orded da	ry (B7) eck here	s if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (I Fau	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6)  lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)		

Project/Site Falkirk Ethanol Plant Lateral (Blue F	lint Line) City/0	County:	McLean	Sampling Date:	5/6/21	
Applicant/Owner: WBI Energy Transmission, I	nc.	State:	ND	Sampling Point:	Sampling Point: 6u	
Investigator(s): LT/AG		Section	on, Township	o, Range: S19, T145N,	R81W	
Landform (hillslope, terrace, etc.):	hillslope	Local re	elief (concav	e, convex, none): conv	/ex	
Slope (%): 5 Lat: 47.37	1148	Long:	-101.0497		GS 84	
Soil Map Unit Name Harriet-Regan-Stirum co	omplex, 0 to 2 per	rcent slopes	NWIC	Classification: -		
Subregion (MLRA or LRR): F			ditions of the	site typical for this time of the ye	ar? Y	
Are vegetation , soil , or hydrology	significantly	•			Υ	
Are vegetation , soil , or hydrology	naturally pro			ed, explain any answers in remark	(s.)	
SUMMARY OF FINDINGS - Attach site			•	•	•	
Hydrophytic vegetation present?	N I			within a wetland?	,	
Hydric soil present?	N		•		_	
Indicators of wetland hydrology present?						
Remarks: (Explain alternative procedures here o		nort \				
Point taken in woodland drainageway.	i iii a separate re	port.)				
on taken in weedand drainageway.						
VECETATION Line scientific names of	f plants					
VEGETATION - Use scientific names of	Absolute	Daminant	Indicator	Dominance Test Worksheet		
Tree Stratum (Plot size: 30 ft	) % Cover	Dominant Species	Staus	Number of Dominant Species		
1	.,	'		that are OBL, FACW, or FAC:	0 (A)	
2			_	Total Number of Dominant	``,	
3				Species Across all Strata:	2 (B)	
4				Percent of Dominant Species		
5				that are OBL, FACW, or FAC:	0.00% (A/B)	
	0 =	= Total Cover				
Sapling/Shrub stratum (Plot size: 15 ft	)			Prevalence Index Worksheet		
1				Total % Cover of:	0	
2 3				OBL species $0 \times 1 = 0$ FACW species $0 \times 2 = 0$	0	
4				FAC species 0 x 3 =	0	
5	<del></del>			FACU species 30 x 4 =	120	
	0 =	Total Cover		UPL species 70 x 5 =	350	
Herb stratum (Plot size: 5 ft	)			Column totals 100 (A)	470 (B)	
1 Bromus inermis	70	<u> </u>	UPL	Prevalence Index = B/A =	4.70	
2 Elymus repens	30	<u>Y</u>	FACU			
3				Hydrophytic Vegetation Indic		
4				Rapid test for hydrophytic v	/egetation	
56				Dominance test is >50% Prevalence index is ≤3.0*		
7						
8				Morphogical adaptations* ( supporting data in Remarks		
9				separate sheet)	5 01 011 u	
10			•	Problematic hydrophytic ve	getation*	
	100 =	Total Cover		(explain)		
Woody vine stratum (Plot size: 30 ft	)			*Indicators of hydric soil and wetland	hydrology must be	
1				present, unless disturbed or	problematic	
2		<del></del>		Hydrophytic		
% Bare Ground in Herb Statum 0	0 =	= Total Cover		vegetation present? N		
Remarks: (Include photo numbers here or on a s	enarate sheet)			present:		
Upland vegetation dominates.	oparato silect)					
l '						

SOIL Sampling Point: 6u

Profile Description	: (Desc	ribe to t	he dept	h neede	d to do	cument	the indi	cator o	r confirm the a	bsence of indicators.)			
		Matrix				Mottles							
Depth (Inches)	Color	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks			
0-12	10YR	2/1	100	00.0.	()	,,,	. , , , ,		Loam	, terriainte			
12-24	10YR	4/3	100						Clay Loam				
		., -							,				
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix													
Hydric Soil Indi		<u> </u>	•							Problematic Hydric Soils:			
Histisol (A1)				San	dy Gleye	ed Matrix	(S4)	Г	cm Muck (A9)	-			
Histic Epipedon (	A2)				idy Redo		` ,	Ī		dox (A16) (LRR K, L, R)			
Black Histic (A3)					pped Ma	. ,			ark Surface (S				
Hydrogen Sulfide	. ,				my Muck					ressions (F16) (LRR H, outside MLRA			
Stratified Layers					my Gley		(F2)	г	72,73)	(540)			
1 cm Muck (A9) (			11		oleted Ma lox Dark	` ,	(F6)	-	educed Vertic ed Parent Mate	` '			
Depleted Below I Thick Dark Surfa		ace (A I	1)		leted Da		` '	L		rk Surface (TF12)			
Sandy Mucky Mir	,	)			lox Depre		` '	L	ther (explain in	` '			
2.5 cm Mucky Pe			RR G,H)			,	ons (F16	5) 		,			
5 cm Mucky Pea					RA 72, 73					ic vegetation and weltand hydrology must be			
		Ch	eck her	e if indi	cators a	re not p	resent:	<b>/</b>	present, t	unless disturbed or problematic			
Restrictive Layer (i	f observ					•							
Type:		-	Dep	oth (inch	es):			H	ydric soil prese	nt? N			
Remarks:									-				
		Remarks:											
Remarks: Hydric soil indicators absent.													
Hydric soil indicators absent.													
Hydric soil indicators	s absent.												
HYDROLOGY													
HYDROLOGY	Indicat	ors:	s require	ed; chec	k all that	apply)			Secondary Ind	icators (minimum of two required)			
HYDROLOGY Wetland Hydrology	Indicat	ors:	s require	ed; chec		<u>apply)</u> st (B11)				icators (minimum of two required) Soil Cracks (B6)			
HYDROLOGY Wetland Hydrology Primary Indicators (r	r Indicat	ors:	s require			st (B11)	313)		Surface				
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3)	r Indicat minimum (1) e (A2)	ors:	s require		Salt Cru Aquatic Hydroge	st (B11) Fauna (E en Sulfide	e Odor (C		Surface Sparse	Soil Cracks (B6)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1	r Indicat minimum (1) e (A2)	ors:	s require		Salt Cru Aquatic Hydroge Dry Sea	st (B11) Fauna (E en Sulfide son Wat	e Odor (C er Table	(C2)	Surface Sparse Drainag Oxidized	Soil Cracks (B6) lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposi	r Indicat minimum (1) e (A2) )	ors:	s require		Salt Cru Aquatic Hydroge Dry Sea Oxidized	st (B11) Fauna (Een Sulfide son Wat d Rhizos	e Odor (C er Table oheres o	(C2)	Surface Sparse Drainag Oxidized	Soil Cracks (B6) lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit	r Indicat minimum 11) e (A2) ) its (B2) 3)	ors:	s require		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r	st (B11) Fauna (Een Sulfide son Wat d Rhizosi not tilled)	e Odor (Cer Table oheres or (C3)	(C2) n Living	Surface Sparse Drainag Oxidized (tilled) ((	Soil Cracks (B6) lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Orift Deposits (B3 Algal Mat or Crus	v Indicat minimum (1) e (A2) ) its (B2) 3) st (B4)	ors:	is require		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presenc	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) e of Red	e Odor (Cer Table oheres or (C3)	(C2) n Living	Surface Sparse Drainag Oxidized (tilled) (( Crayfish	Soil Cracks (B6) lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Orift Deposits (B3 Algal Mat or Crus	v Indicateminimum (1) e (A2) ) its (B2) 3) st (B4) 5)	ors: of one i	·		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend	st (B11) Fauna (Een Sulfiderson Wated Rhizosport tilled) ee of Red	e Odor (Cer Table oheres of (C3) luced Iron (C7)	(C2) n Living n (C4)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati	Soil Cracks (B6) lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) l Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible	r Indicat minimum (1) e (A2) ) tts (B2) 3) st (B4) 5) e on Aeria	ors: of one i	·		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend	st (B11) Fauna (Een Sulfiderson Wated Rhizosport tilled) ee of Red	e Odor (Cer Table oheres or (C3)	(C2) n Living n (C4)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati Geomor	Soil Cracks (B6)  lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) l Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Orift Deposits (B3 Algal Mat or Crus	r Indicat minimum (1) e (A2) ) tts (B2) 3) st (B4) 5) e on Aeria	ors: of one i	ry (B7)		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu	st (B11) Fauna (Een Sulfiderson Wated Rhizosport tilled) the e of Redeck Surfaction in	e Odor (Cer Table oheres of (C3) luced Iron (C7) Remark	(C2) n Living n (C4)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati Geomor	Soil Cracks (B6) lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) l Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le	r Indicat minimum (1) e (A2) ) its (B2) 3) st (B4) 5) e on Aeric eaves (B9	ors: of one i	·		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu	st (B11) Fauna (Een Sulfiderson Wated Rhizosport tilled) the e of Redeck Surfaction in	e Odor (Cer Table oheres of (C3) luced Iron (C7) Remark	(C2) n Living n (C4)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati Geomor	Soil Cracks (B6)  lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) l Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le	r Indicat minimum (1) e (A2) ) its (B2) 3) st (B4) 5) e on Aeric eaves (B9	ors: of one i	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in	e Odor (Cer Table otheres of (C3) luced Irol (C7) Remark	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati Geomor	Soil Cracks (B6)  lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) l Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Hagal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese	r Indicat minimum (1) e (A2) ) its (B2) 3) st (B4) 5) e on Aeric eaves (B9	ors: of one i	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in  Depth (	e Odor (Cer Table obheres of (C3) luced Iron (C7) Remark	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (Crayfish Saturati Geomor FAC-Ne	Soil Cracks (B6) bly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposits (B3 Algal Mat or Crus Iron Deposits (B3 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present	r Indicat minimum (1) e (A2) ) its (B2) 3) st (B4) 5) e on Aeric eaves (B9	ors: of one i	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat I Rhizos not tilled) ee of Red ck Surfa explain in  Depth ( Depth (	e Odor (Cer Table oberes of (C3) luced Irol ce (C7) Remark resent:	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati Geomor FAC-Ne Frost-He	Soil Cracks (B6) bly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposits (B3 Algal Mat or Crus Iron Deposits (B3 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present?	r Indicat minimum 11) e (A2) ) its (B2) 3) st (B4) 5) e on Aeric eaves (B9 : nt? ?	ors: of one i	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat I Rhizos not tilled) ee of Red ck Surfa explain in  Depth ( Depth (	e Odor (Cer Table obheres of (C3) luced Iron (C7) Remark	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati Geomor FAC-Ne Frost-He	Soil Cracks (B6) bly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fr	r Indicat minimum 11) e (A2) ) its (B2) 3) st (B4) 6) e on Aerie eaves (B9 : nt? ?	ors: of one i	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in  Te not pi  Depth ( Depth (	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (0 Crayfish Saturati Geomor FAC-Ne Frost-He	Soil Cracks (B6)  lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fr	r Indicat minimum 11) e (A2) ) its (B2) 3) st (B4) 6) e on Aerie eaves (B9 : nt? ?	ors: of one i	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in  Te not pi  Depth ( Depth (	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (0 Crayfish Saturati Geomor FAC-Ne Frost-He	Soil Cracks (B6) bly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B3 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fr	r Indicat minimum 11) e (A2) ) its (B2) 3) st (B4) 6) e on Aerie eaves (B9 : nt? ?	ors: of one i	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in  Te not pi  Depth ( Depth (	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (0 Crayfish Saturati Geomor FAC-Ne Frost-He	Soil Cracks (B6)  lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fr	r Indicateminimum (1) e (A2) ) its (B2) st (B4) i) e on Aeric eaves (B9) : int? ?	ors: of one i	ry (B7)  eck here	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in  Te not pi  Depth ( Depth (	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (0 Crayfish Saturati Geomor FAC-Ne Frost-He	Soil Cracks (B6)  lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line) City/	/County:	McLean	Sampling Date: 5/6/21
Applicant/Owner: WBI Energy Transmission, Inc.	er: WBI Energy Transmission, Inc. State:		Sampling Point: 6w
Investigator(s): LT/AG	Sectio	n, Township	o, Range: S19, T145N, R81W
Landform (hillslope, terrace, etc.): drainageway	Local re	elief (concav	e, convex, none): concave
Slope (%): 2 Lat: 47.37118	 Long:	-101.0498	26 Datum: WGS 84
Soil Map Unit Name Harriet-Regan-Stirum complex, 0 to 2 pe	ercent slopes	NWI C	Classification: -
		litions of the	site typical for this time of the year?
·	/ disturbed?		mal circumstances" present? Y
Are vegetation , soil , or hydrology naturally pr			ed, explain any answers in remarks.)
SUMMARY OF FINDINGS - Attach site map showing		•	•
Hydrophytic vegetation present? Y			within a wetland?
Hydric soil present?		•	<del></del>
Indicators of wetland hydrology present?			
Remarks: (Explain alternative procedures here or in a separate re	eport )		
Point taken in wooded drainageway.	ероп.)		
i oin takon in woodod dramagoway.			
VEGETATION - Use scientific names of plants.			
Absolute	Dominant	Indicator	Dominance Test Worksheet
Tree Stratum (Plot size: 30 ft ) % Cover	Species	Staus	Number of Dominant Species
1	·		that are OBL, FACW, or FAC: 1 (A)
2			Total Number of Dominant
3			Species Across all Strata:(B)
4			Percent of Dominant Species
5			that are OBL, FACW, or FAC: 100.00% (A/B)
0	= Total Cover		Barrelon en la las Ward el car
Sapling/Shrub stratum (Plot size: 15 ft )			Prevalence Index Worksheet Total % Cover of:
		_	OBL species 0 x1= 0
3	<del></del> -		FACW species 100 x 2 = 200
4			FAC species 0 x 3 = 0
5	·		FACU species 0 x 4 = 0
0	= Total Cover		UPL species 0 x 5 = 0
Herb stratum (Plot size: 5 ft )	_		Column totals 100 (A) 200 (B)
1 Phalaris arundinacea 100	Y	FACW	Prevalence Index = B/A = 2.00
2			
3	<del></del>		Hydrophytic Vegetation Indicators:
5			Rapid test for hydrophytic vegetation  X Dominance test is >50%
6			X Prevalence index is ≤3.0*
7			Morphogical adaptations* (provide
8			supporting data in Remarks or on a
9			separate sheet)
10			Problematic hydrophytic vegetation*
	= Total Cover		(explain)
Woody vine stratum (Plot size: 30 ft )			*Indicators of hydric soil and wetland hydrology must be
1			present, unless disturbed or problematic
	= Total Cover		Hydrophytic vegetation
% Bare Ground in Herb Statum 0	- TOTAL COVE		present? Y
Remarks: (Include photo numbers here or on a separate sheet)		<u> </u>	
Hydrophytic vegetation dominates.			

SOIL Sampling Point: 6w

<b>Profile Description</b>	: (Desc	ribe to t	he dept	n neede	d to do	cument	the indi	cator o	r confirm the a	bsence of indicators.)			
	Matrix Mottles												
Depth (Inches)	Color	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks			
0-12	10YR	2/1	95	10YR	4/6	5	C	М	Loam				
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix													
Hydric Soil Indicators:  Indicators for Problematic Hydric Soils:													
Histisol (A1)				San	dy Gleye	ed Matrix	(S4)	Г	cm Muck (A9)	-			
Histic Epipedon (	A2)				dy Redo					dox (A16) (LRR K, L, R)			
Black Histic (A3)					oped Ma	. ,			ark Surface (S7				
Hydrogen Sulfide	. ,	_			my Muck					essions (F16) (LRR H, outside MLRA			
Stratified Layers 1 cm Muck (A9) (					my Gleyo leted Ma		( (F2)	Г	72,73)  educed Vertic	(E18)			
Depleted Below [			)	·	lox Dark	, ,	(F6)	-	ed Parent Mate	` '			
Thick Dark Surface		400 (711)	,		leted Da		` '	-		rk Surface (TF12)			
Sandy Mucky Mir	,	)		:	lox Depre		` '		ther (explain in	` ,			
2.5 cm Mucky Pe							ons (F16			·			
5 cm Mucky Peat	or Peat	(S3) (LRI	RF)	(ML	RA 72, 73	of LRR H	1)	*Ir		ic vegetation and weltand hydrology must be inless disturbed or problematic			
		Ch	eck her	e if indi	cators a	re not p	resent:	П	procent, e	mices distalbed of presiding in			
Restrictive Layer (i	f observ	red):											
Type:			Dep	th (inch	es):			H	dric soil prese	nt? Y			
Remarks:													
Remarks: Hydric soils present.													
Hydric soils present.													
Hydric soils present.  HYDROLOGY													
Hydric soils present.		ors:											
Hydric soils present.  HYDROLOGY	Indicat		s require	ed; chec	k all that	: apply)			Secondary Indi	icators (minimum of two required)			
Hydric soils present.  HYDROLOGY  Wetland Hydrology	Indicat		s require	ed; chec		: apply) st (B11)			Surface	Soil Cracks (B6)			
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r  Surface Water (A  High Water Table	Indicat		s require			st (B11)	313)		Surface Sparse	Soil Cracks (B6) ly Vegetated Concave Surface (B8)			
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r Surface Water (A High Water Table Saturation (A3)	Indicat minimum 1) e (A2)		s require		Salt Cru Aquatic Hydroge	st (B11) Fauna (E en Sulfide	e Odor (C		Surface Sparse	Soil Cracks (B6)			
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r  Surface Water (A  High Water Table Saturation (A3)  Water Marks (B1	Indicat minimum 11) e (A2)		s require		Salt Cru Aquatic Hydroge Dry Sea	st (B11) Fauna (E en Sulfide son Wat	e Odor (C er Table	(C2)	Surface Sparse Drainage Oxidized	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) f Rhizospheres on Living Roots			
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r  Surface Water (A  High Water Table Saturation (A3)  Water Marks (B1)  Sediment Deposi	Indicate minimum (1) e (A2) ) ts (B2)		s require		Salt Cru Aquatic Hydroge Dry Sea Oxidized	st (B11) Fauna (Een Sulfide son Wat d Rhizos	e Odor (C er Table pheres o	(C2)	Surface Sparse Drainage Oxidized	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3)			
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r  Surface Water (A  High Water Table  Saturation (A3)  Water Marks (B1  Sediment Deposit  Drift Deposits (B3)	Indicateminimum (1) (A2) (A2) (ts (B2)		s require		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r	st (B11) Fauna (Een Sulfide son Wat d Rhizos not tilled)	e Odor (C er Table pheres or (C3)	(C2) n Living	Surface Sparse Drainage Oxidized (tilled) ((	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8)			
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r  Surface Water (A  High Water Table  Saturation (A3)  Water Marks (B1  Sediment Deposit  Drift Deposits (B3)	r Indicat minimum (1) e (A2) ) ts (B2) B) et (B4)		s require		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) e of Red	e Odor (Cer Table pheres or (C3)	(C2) n Living	Surface Sparse Drainage Oxidizec (tilled) (Cayfish	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9)			
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r  Surface Water (A  High Water Table Saturation (A3)  Water Marks (B1  Sediment Deposit Drift Deposits (B3  Algal Mat or Crust Iron Deposits (B5	r Indicateminimum (1) (e (A2) ) ts (B2) (b) (c) (c) (d)	of one i			Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend	st (B11) Fauna (Een Sulfide son Wat d Rhizosp not tilled) se of Red ck Surfa	e Odor (Cer Table pheres of (C3) luced Iron (C7)	(C2) n Living n (C4)	Surface Sparse Drainage Oxidizec (tilled) (Cayfish Saturation Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)			
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r  Surface Water (A  High Water Table  Saturation (A3)  Water Marks (B1  Sediment Deposit  Drift Deposits (B3  Algal Mat or Crus  Iron Deposits (B5	r Indicateminimum (1) (e (A2) ) ts (B2) (b) st (B4) (c) e on Aerie	of one i			Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend	st (B11) Fauna (Een Sulfide son Wat d Rhizosp not tilled) se of Red ck Surfa	e Odor (Cer Table pheres or (C3)	(C2) n Living n (C4)	Surface Sparse Drainage Oxidizec (tilled) (C Crayfish Saturatic Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)			
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r  Surface Water (A  High Water Table Saturation (A3)  Water Marks (B1  Sediment Deposit Drift Deposits (B3  Algal Mat or Crust Iron Deposits (B5	r Indicateminimum (1) (e (A2) ) ts (B2) (b) st (B4) (c) e on Aerie	of one i	ry (B7)		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (Een Sulfiderson Wated Rhizosport tilled) the e of Redeck Surfaction in	e Odor (C er Table pheres of (C3) luced Iron ce (C7) i Remark	(C2) n Living n (C4)	Surface Sparse Drainage Oxidizec (tilled) (C Crayfish Saturatic Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)			
Hydric soils present.  HYDROLOGY  Wetland Hydrology Primary Indicators (r  Surface Water (A  High Water Table  Saturation (A3)  Water Marks (B1  Sediment Deposit  Drift Deposits (B3  Algal Mat or Crust  Iron Deposits (B5  Inundation Visible  Water-Stained Le	r Indicat minimum (1) e (A2) ) ts (B2) 3) st (B4) 5) e on Aeric	of one i			Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (Een Sulfiderson Wated Rhizosport tilled) the e of Redeck Surfaction in	e Odor (C er Table pheres of (C3) luced Iron ce (C7) i Remark	(C2) n Living n (C4)	Surface Sparse Drainage Oxidizec (tilled) (C Crayfish Saturatic Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)			
Hydric soils present.  HYDROLOGY  Wetland Hydrology Primary Indicators (r  Surface Water (A  High Water Table  Saturation (A3)  Water Marks (B1  Sediment Deposit  Drift Deposits (B3  Algal Mat or Crust  Iron Deposits (B5  Inundation Visible  Water-Stained Le	Indicateminimum (1) (A2) (A2) (B3) (B4) (B4) (B4) (B4) (B4) (B5) (B4) (B5) (B5) (B5) (B5) (B5) (B5) (B5) (B5	al Image	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in	e Odor (Cer Table pheres of (C3) luced Irol (C7) Remark	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidizec (tilled) (C Crayfish Saturatic Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)			
Hydric soils present.  HYDROLOGY  Wetland Hydrology Primary Indicators (r  Surface Water (A  High Water Table  Saturation (A3)  Water Marks (B1  Sediment Deposit  Drift Deposits (B3  Algal Mat or Crus  Iron Deposits (B5  Inundation Visible  Water-Stained Le  Field Observations  Surface water prese	Indicateminimum (1) (A2) (A2) (B2) (B3) (C) (C) (C) (C) (C) (C) (C) (C) (C) (C	al Image  Che	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in  Depth (	e Odor (Cer Table pheres of (C3) fluced Iron (C7) in Remark resent:	(C2) n Living n (C4)	Surface Sparse Drainage Oxidizec (tilled) (C Crayfish Saturatic Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			
Hydric soils present.  HYDROLOGY  Wetland Hydrology Primary Indicators (r  Surface Water (A  High Water Table Sediment Deposit Drift Deposits (B3  Algal Mat or Crus Iron Deposits (B5  Inundation Visible Water-Stained Le	Indicateminimum (1) (A2) (A2) (B2) (B3) (C) (C) (C) (C) (C) (C) (C) (C) (C) (C	al Image  Che  Yes Yes	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat I Rhizos not tilled) ee of Red ck Surfa explain in  Depth ( Depth (	e Odor (Cer Table pheres of (C3) lluced Irol ce (C7) in Remark resent: inches):	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (C Crayfish Saturatic Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			
Hydric soils present.  HYDROLOGY  Wetland Hydrology Primary Indicators (r  Surface Water (A  High Water Table Sediment Deposit Drift Deposits (B3  Algal Mat or Crus Iron Deposits (B5  Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present?	Indicateminimum (1) (A2) (A2) (B2) (B3) (B4) (B4) (B4) (B5) (B4) (B5) (B6) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7	al Image  Che	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat I Rhizos not tilled) ee of Red ck Surfa explain in  Depth ( Depth (	e Odor (Cer Table pheres of (C3) fluced Iron (C7) in Remark resent:	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (C Crayfish Saturatic Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			
Hydric soils present.  HYDROLOGY  Wetland Hydrology Primary Indicators (r. Surface Water (A. High Water Table Saturation (A3)  Water Marks (B1  Sediment Deposits (B3  Algal Mat or Crustler Inundation Visible Water-Stained Letter Water table present'  Saturation present?  (includes capillary fri	Indicateminimum (1) (A2) (A2) (A2) (A3) (A4) (A4) (A4) (A4) (A4) (A4) (A4) (A4	al Image  (b)  Che  Yes  Yes  Yes	ry (B7) eck here	if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) te of Red ck Surfa explain in  Te not pi  Depth ( Depth (	e Odor (C er Table pheres or (C3) luced Iror ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s) 6+	Surface Sparse Drainage Oxidized (tilled) (0 Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			
Hydric soils present.  HYDROLOGY  Wetland Hydrology Primary Indicators (r. Surface Water (A. High Water Table Saturation (A3)  Water Marks (B1  Sediment Deposits (B3  Algal Mat or Crustler Inundation Visible Water-Stained Letter Water table present'  Saturation present?  (includes capillary fri	Indicateminimum (1) (A2) (A2) (A2) (A3) (A4) (A4) (A4) (A4) (A4) (A4) (A4) (A4	al Image  (b)  Che  Yes  Yes  Yes	ry (B7) eck here	if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) te of Red ck Surfa explain in  Te not pi  Depth ( Depth (	e Odor (C er Table pheres or (C3) luced Iror ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s) 6+	Surface Sparse Drainage Oxidized (tilled) (0 Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			
Hydric soils present.  HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposits (B3 Algal Mat or Crus Iron Deposits (B3 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fri	Indicateminimum (1) (A2) (A2) (A2) (A3) (A4) (A4) (A4) (A4) (A4) (A4) (A4) (A4	al Image  (b)  Che  Yes  Yes  Yes	ry (B7) eck here	if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) te of Red ck Surfa explain in  Te not pi  Depth ( Depth (	e Odor (C er Table pheres or (C3) luced Iror ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s) 6+	Surface Sparse Drainage Oxidized (tilled) (0 Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			
Hydric soils present.  HYDROLOGY  Wetland Hydrology Primary Indicators (r. Surface Water (A. High Water Table Sediment Deposit (B. Algal Mat or Crustleron Deposits (B. Inundation Visible Water-Stained Letteron Deposits (B. Surface Water table present' Saturation present? (includes capillary fri	r Indicat minimum (1) e (A2) ) ts (B2) 3) et (B4) 6) e on Aeric eaves (B9 : int? ?	al Image  Ohe  Yes  Yes  Yes  Yes  Orded da	ry (B7) eck here	if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) te of Red ck Surfa explain in  Te not pi  Depth ( Depth (	e Odor (C er Table pheres or (C3) luced Iror ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s) 6+	Surface Sparse Drainage Oxidized (tilled) (0 Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line)	City/County:	McLean	Sampling Date:	5/6/21
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND	Sampling Point:	7u
Investigator(s): LT/AG	Section	on, Township	o, Range: S19, T14	5N, R81W
Landform (hillslope, terrace, etc.): hillslope	Local re	elief (concave	e, convex, none): c	onvex
Slope (%): 4 Lat: 47.371234	Long:	-101.0533		WGS 84
Soil Map Unit Name Zahl-Max-Arnegard loams, 15 to 6	0 percent slopes	NWI C	Classification:	-
		ditions of the	site typical for this time of the	year? Y
·	cantly disturbed?		mal circumstances" present?	Υ
	ally problematic?		ed, explain any answers in ren	narks.)
SUMMARY OF FINDINGS - Attach site map show	• •	•	•	•
Hydrophytic vegetation present? N	<del></del>	•	within a wetland?	,
Hydric soil present?		•		
Indicators of wetland hydrology present?				
Remarks: (Explain alternative procedures here or in a separ	rate report )			
Point taken uphill of wetland drainageway.	ate report.)			
, one canon aprim or monana aramagemay.				
VEGETATION - Use scientific names of plants.				
·	olute Dominant	Indicator	Dominance Test Workshe	et
	Cover Species	Staus	Number of Dominant Species	
1	·		that are OBL, FACW, or FAC:	
2			Total Number of Dominant	<u> </u>
3			Species Across all Strata:	1 (B)
4			Percent of Dominant Species	
5			that are OBL, FACW, or FAC:	0.00% (A/B)
<u></u>	0 = Total Cover	·	Prevalence Index Worksho	not .
Sapling/Shrub stratum (Plot size: 15 ft )			Total % Cover of:	eel
			OBL species 0 x 1	= 0
3			FACW species 0 x 2	
4			FAC species 0 x 3	= 0
5			FACU species 0 x 4	= 0
	0 = Total Cover		UPL species 100 x 5	= 500
Herb stratum (Plot size: 5 ft )			Column totals 100 (A)	``
·	00 Y	UPL	Prevalence Index = B/A =	5.00
		<b> </b>	Hydrophytic Vegetation In	alianta una :
3			Rapid test for hydrophyl	
5			Dominance test is >50%	•
6		<del></del>	Prevalence index is ≤3.0	
7			Morphogical adaptations	s* (provide
8			supporting data in Rema	
9			separate sheet)	
10			Problematic hydrophytic	c vegetation*
<u></u>	00 = Total Cover	•	(explain)	
Woody vine stratum (Plot size: 30 ft )			*Indicators of hydric soil and wet	, ,,
			present, unless disturbed	or problematic
<sup>-</sup>	0 = Total Cover	<del></del>	vegetation	
% Bare Ground in Herb Statum0			present? N	
Remarks: (Include photo numbers here or on a separate sho	eet)			
Upland vegetation dominates.				

SOIL Sampling Point: 7u

Profile Description:	: (Descr	ribe to t	he depth	า neede	d to doc	:ument	the indi	cator o	or confirm the a	bsence of indicators.)			
		Matrix		Mottles									
Depth (Inches)	Color (	moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks			
0-18	10YR	2/1	100		,	_	. 71		Loam				
18-25	10YR	4/1	95	10YR	4/6	5	С	М	Clay Loam				
									,				
		· · · · · · · · · · · · · · · · · · ·											
ype: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matri													
Hydric Soil Indicators:  Indicators for Problematic Hydric Soils:													
Histisol (A1) Sandy Gleyed Matrix (S4) cm Muck (A9) (LRR I,J)													
Histic Epipedon (	A2)				dy Redo			ļ		dox (A16) (LRR K, L, R)			
Black Histic (A3)	(4.4)				oped Mat		. (= 1)	ļ	ark Surface (S7				
Hydrogen Sulfide	` '	,			my Muck			L		essions (F16) (LRR H, outside MLRA			
Stratified Layers 1 cm Muck (A9) (					my Gleye leted Ma		(FZ)	Γ	72,73)  educed Vertic	(F18)			
Depleted Below D			1)		lox Dark	` '	(F6)	<b> </b>	ed Parent Mate	` ,			
Thick Dark Surface			• /		leted Da		` '	t		rk Surface (TF12)			
Sandy Mucky Mir	, ,	)			lox Depre		` '	Ī	ther (explain in	` ,			
2.5 cm Mucky Pe					n Plains [								
5 cm Mucky Peat	or Peat	(S3) (LRI	RF)	(MLI	RA 72, 73	of LRR H	)	^in		ic vegetation and weltand hydrology must be inless disturbed or problematic			
			eck here	if indi	cators a	re not p	resent:	<b>√</b>	·				
Restrictive Layer (in	f observ	ed):											
Type:			Dep	th (inch	es):			Hy	ydric soil prese	nt? N			
Remarks:													
Hydric soils present.													
HYDROLOGY													
Wetland Hydrology	Indicat	ore:											
Primary Indicators (n		of and i	autico	-li aboo	te all that	lv/			<b>2</b>	to the feet of the same of the same and the state of the same of t			
Surface Water (A	4 \	of one	is require	d; chec						icators (minimum of two required)			
	,	of one	is require		Salt Cru	st (B11)	240)		Surface	Soil Cracks (B6)			
	,	of one	is require		Salt Cru Aquatic	st (B11) Fauna (E	•	<b>14</b> 1	Surface Sparse	Soil Cracks (B6) ly Vegetated Concave Surface (B8)			
Saturation (A3)	e (A2)	of one	is require		Salt Cru Aquatic Hydroge	st (B11) Fauna (E en Sulfide	Odor (C	,	Surface Sparse Drainage	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10)			
Saturation (A3) Water Marks (B1)	(A2)	of one	is require		Salt Crust Aquatic Hydroge Dry Seas	st (B11) Fauna (E en Sulfide son Wate	e Odor (C er Table	(C2)	Surface Sparse Drainage	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots			
Saturation (A3) Water Marks (B1) Sediment Deposi	(A2) ) ts (B2)	of one	is require		Salt Cru  Aquatic  Hydroge  Dry Sea  Oxidized	st (B11) Fauna (E en Sulfide son Wate d Rhizosp	e Odor (C er Table oheres or	(C2)	Surface Sparse Drainage Oxidized	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3)			
Saturation (A3) Water Marks (B1) Sediment Deposi Drift Deposits (B3)	(A2) ) ts (B2)	of one	is require		Salt Crustic Aquatic Hydroge Dry Seas Oxidized Roots (n	st (B11) Fauna (Een Sulfide son Wate d Rhizosp not tilled)	e Odor (Cer Table otheres or (C3)	(C2) n Living	Surface Sparse Drainage Oxidized (tilled) ((	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3) Burrows (C8)			
Saturation (A3) Water Marks (B1) Sediment Deposi Drift Deposits (B3) Algal Mat or Crus	(A2) ) ts (B2) 3) st (B4)	of one	is require		Salt Crust Aquatic Hydroge Dry Seas Oxidized Roots (n	st (B11) Fauna (E en Sulfide son Wate d Rhizosp not tilled) e of Red	e Odor (Cer Table oheres or (C3) uced Iron	(C2) n Living	Surface Sparse Drainage Oxidized (tilled) (( Crayfish	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9)			
Saturation (A3) Water Marks (B1) Sediment Deposi Drift Deposits (B3) Algal Mat or Crus Iron Deposits (B5)	(A2) ts (B2) 3) st (B4)				Salt Crust Aquatic Hydroge Dry Seas Oxidized Roots (n Presenc Thin Mus	st (B11) Fauna (E n Sulfide son Wate d Rhizosp not tilled) se of Red ck Surfac	e Odor (Cer Table oheres or (C3) uced Iron (C7)	(C2) n Living n (C4)	Surface Sparse Drainage Oxidizec (tilled) (Cayfish Saturatic	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)			
Saturation (A3) Water Marks (B1) Sediment Deposit Drift Deposits (B3) Algal Mat or Crus Iron Deposits (B5) Inundation Visible	e (A2) ) ts (B2) 3) st (B4) 5) e on Aeria	al Image			Salt Crust Aquatic Hydroge Dry Seas Oxidized Roots (n Presenc Thin Mus	st (B11) Fauna (Een Sulfiderson Water Britzosphot tilled) ee of Red	e Odor (Cer Table oheres or (C3) uced Iron (C7)	(C2) n Living n (C4)	Surface Sparse Drainage Oxidizec (tilled) (( Crayfish Saturatic Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)			
Saturation (A3) Water Marks (B1) Sediment Deposi Drift Deposits (B3) Algal Mat or Crus Iron Deposits (B5)	e (A2) ) ts (B2) 3) st (B4) 5) e on Aeria	al Image 9)	ry (B7)		Salt Crustic Aquatic Hydroge Dry Seas Coxidized Roots (need a presence Thin Must Cother (Editor)	st (B11) Fauna (E en Sulfide son Wate d Rhizosp not tilled) se of Red ck Surfac explain in	e Odor (Cer Table oberes or (C3) uced Iror (C7) Remark	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidizec (tilled) (( Crayfish Saturatic Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)			
Saturation (A3) Water Marks (B1) Sediment Deposi Drift Deposits (B3) Algal Mat or Crus Iron Deposits (B5) Inundation Visible Water-Stained Le	e (A2) ) ts (B2) B) st (B4) i) e on Aeria	al Image 9)			Salt Crustic Aquatic Hydroge Dry Seas Coxidized Roots (need a presence Thin Must Cother (Editor)	st (B11) Fauna (E en Sulfide son Wate d Rhizosp not tilled) se of Red ck Surfac explain in	e Odor (Cer Table oberes or (C3) uced Iror (C7) Remark	(C2) n Living n (C4)	Surface Sparse Drainage Oxidizec (tilled) (( Crayfish Saturatic Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)			
Saturation (A3)  Water Marks (B1) Sediment Deposit Drift Deposits (B3) Algal Mat or Crus Iron Deposits (B5) Inundation Visible Water-Stained Le	e (A2)  ) ts (B2) B) st (B4) S) e on Aeria eaves (B9	al Image 9) Che	ry (B7)	if indic	Salt Crus Aquatic Hydroge Dry Seas Oxidized Roots (n Presenc Thin Muc Other (E	st (B11) Fauna (E en Sulfide son Wate d Rhizosp not tilled) ee of Red ck Surfae explain in	e Odor (Cer Table otheres or (C3) uced Iror (C7) Remark	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidizec (tilled) (( Crayfish Saturatic Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)			
Saturation (A3)  Water Marks (B1)  Sediment Deposit  Drift Deposits (B3)  Algal Mat or Crus  Iron Deposits (B5)  Inundation Visible  Water-Stained Le	e (A2)  ) ts (B2)  3) st (B4) si) e on Aeria eaves (B9	al Image 9) Che Yes	ry (B7)	e if indic	Salt Crus Aquatic Hydroge Dry Seas Oxidized Roots (n Presenc Thin Muc Other (E	st (B11) Fauna (E en Sulfide son Wate d Rhizosp not tilled) ee of Red ck Surfae explain in  Depth (i	e Odor (Cer Table obheres or (C3) uuced Iror (C7) Remark	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (C Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)			
Saturation (A3)  Water Marks (B1) Sediment Deposit Drift Deposits (B3) Algal Mat or Crus Iron Deposits (B5) Inundation Visible Water-Stained Le	e (A2)  ) ts (B2)  3) st (B4) si) e on Aeria eaves (B9	al Image 9) Che	ry (B7)	if indic	Salt Crus Aquatic Hydroge Dry Seas Oxidized Roots (n Presenc Thin Muc Other (E	st (B11) Fauna (E en Sulfide son Wate d Rhizosp not tilled) ee of Red ck Surfae explain in  Depth (i Depth (i	e Odor (Cer Table otheres or (C3) uuced Iror (C7) Remark resent:	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (C Crayfish Saturatio Geomor FAC-Ne Frost-He	Soil Cracks (B6)  ly Vegetated Concave Surface (B8) e Patterns (B10) If Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			
Saturation (A3)  Water Marks (B1)  Sediment Deposit  Drift Deposits (B3)  Algal Mat or Crus  Iron Deposits (B5)  Inundation Visible  Water-Stained Le  Field Observations  Surface water present	e (A2)  ) ts (B2)  3) st (B4) si) e on Aeria eaves (B9 : nt?	al Image e) Che Yes Yes	ry (B7)	if indic	Salt Crusting Aquatic Hydroge Dry Seasons (n) Presence Thin Mucother (Estators ar	st (B11) Fauna (E en Sulfide son Wate d Rhizosp not tilled) ee of Red ck Surfae explain in  Depth (i	e Odor (Cer Table otheres or (C3) uuced Iror (C7) Remark resent:	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (C Crayfish Saturatio Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			
Saturation (A3)  Water Marks (B1) Sediment Deposit Drift Deposits (B3) Algal Mat or Crus Iron Deposits (B5) Inundation Visible Water-Stained Le  Field Observations Surface water present Saturation present? (includes capillary fri	e (A2)  ) ts (B2) st (B4) s) e on Aeria eaves (B9 : nt? ?	al Image 9) Che Yes Yes Yes	eck here	sif indic	Salt Crustal Aquatical Aqu	st (B11) Fauna (E en Sulfide son Wate d Rhizosp not tilled) te of Red ck Surfac explain in  Te not pr  Depth (i Depth (i	e Odor (Cer Table beheres or (C3) uced Iror (C7) Remark resent: inches): inches):	(C2) n Living n (C4) ss)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatid Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) If Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			
Saturation (A3)  Water Marks (B1) Sediment Deposit Drift Deposits (B3) Algal Mat or Crus Iron Deposits (B5) Inundation Visible Water-Stained Le  Field Observations Surface water present Saturation present? (includes capillary fri	e (A2)  ) ts (B2) st (B4) s) e on Aeria eaves (B9 : nt? ?	al Image 9) Che Yes Yes Yes	eck here	sif indic	Salt Crustal Aquatical Aqu	st (B11) Fauna (E en Sulfide son Wate d Rhizosp not tilled) te of Red ck Surfac explain in  Te not pr  Depth (i Depth (i	e Odor (Cer Table beheres or (C3) uced Iror (C7) Remark resent: inches): inches):	(C2) n Living n (C4) ss)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatid Geomor FAC-Ne Frost-He	Soil Cracks (B6)  ly Vegetated Concave Surface (B8) e Patterns (B10) If Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			
Saturation (A3)  Water Marks (B1)  Sediment Deposits (B3)  Algal Mat or Cruster Inundation Visible Water-Stained Letter Field Observations  Surface water present Saturation present?  (includes capillary frigues of the content of th	e (A2)  ) ts (B2) st (B4) s) e on Aeria eaves (B9 : nt? ?	al Image 9) Che Yes Yes Yes	eck here	sif indic	Salt Crustal Aquatical Aqu	st (B11) Fauna (E en Sulfide son Wate d Rhizosp not tilled) te of Red ck Surfac explain in  Te not pr  Depth (i Depth (i	e Odor (Cer Table beheres or (C3) uced Iror (C7) Remark resent: inches): inches):	(C2) n Living n (C4) ss)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatid Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) If Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			
Saturation (A3)  Water Marks (B1) Sediment Deposit Drift Deposits (B3) Algal Mat or Crus Iron Deposits (B5) Inundation Visible Water-Stained Le  Field Observations Surface water present Saturation present? (includes capillary fri	e (A2)  ) ts (B2) 3) st (B4) 5) e on Aeria eaves (B9 : nt? ? tinge)	al Image 3) Che Yes Yes Yes	eck here	sif indic	Salt Crustal Aquatical Aqu	st (B11) Fauna (E en Sulfide son Wate d Rhizosp not tilled) te of Red ck Surfac explain in  Te not pr  Depth (i Depth (i	e Odor (Cer Table beheres or (C3) uced Iror (C7) Remark resent: inches): inches):	(C2) n Living n (C4) ss)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatid Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) If Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line) C	City/County:	McLean	Sampling Date: 5/6/21	
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND	Sampling Point: 7w	
Investigator(s): LT/AG	Section	on, Township	, Range: S19,T145N, R81W	
Landform (hillslope, terrace, etc.): drainageway	Local re	elief (concave	e, convex, none): concave	
Slope (%): 0 Lat: 47.371241	Long:	-101.0531	6 Datum: WGS 84	
Soil Map Unit Name Zahl-Max-Arnegard loams, 15 to 60	percent slopes	NWI C	lassification: R4SBC	
Subregion (MLRA or LRR): F Are climati	c/hydrologic cond	ditions of the	site typical for this time of the year? Y	,
Are vegetation , soil , or hydrology significa	ntly disturbed?	Are "norr	nal circumstances" present? Y	
Are vegetation , soil , or hydrology naturally	y problematic?	(If neede	d, explain any answers in remarks.)	
SUMMARY OF FINDINGS - Attach site map show	ing sampling	point locat	ions, transect, important features	, etc.
Hydrophytic vegetation present? Y	Is the sa	ampled area	within a wetland? Y	
Hydric soil present?				
Indicators of wetland hydrology present?				
Remarks: (Explain alternative procedures here or in a separat	re report )			
Point taken in drainagway. Point taken within 2 NWI polygons	. ,			
VEGETATION - Use scientific names of plants.				
Absolu	ute Dominant	Indicator	Dominance Test Worksheet	
Tree Stratum (Plot size: 30 ft ) % Cov		Staus	Number of Dominant Species	
1			·	(A)
2			Total Number of Dominant	
3			Species Across all Strata: 1	(B)
			Percent of Dominant Species	(4.45)
5	— <del></del>		that are OBL, FACW, or FAC: 100.00%	(A/B)
Sapling/Shrub stratum (Plot size: 15 ft )	= Total Cover	-	Prevalence Index Worksheet	
1 1			Total % Cover of:	
			OBL species 90 x 1 = 90	
3	<del></del>	<del></del>	FACW species $0 \times 2 = 0$	
4			FAC species $0 \times 3 = 0$	
5			FACU species 0 x 4 = 0	
0	= Total Cover		UPL species 0 x 5 = 0	
Herb stratum (Plot size: 5 ft )				(B)
1 Typha latifolia 90	Y	OBL	Prevalence Index = B/A = 1.00	
2		—— <u> </u>	Hydrophytic Vegetation Indicators:	
			Rapid test for hydrophytic vegetation	
5			X Dominance test is >50%	
6			X Prevalence index is ≤3.0*	
7			Morphogical adaptations* (provide	
8			supporting data in Remarks or on a	
9			separate sheet)	
10			Problematic hydrophytic vegetation*	
90	= Total Cover	•	(explain)	
Woody vine stratum (Plot size: 30 ft )			*Indicators of hydric soil and wetland hydrology m	nust be
1		—— I	present, unless disturbed or problematic	
2	= Total Cover		Hydrophytic vegetation	
% Bare Ground in Herb Statum 10	10.01 0000		present? Y	
Remarks: (Include photo numbers here or on a separate shee	t)			
Hydrophytic vegetation dominates.				

SOIL Sampling Point: 7w

Profile Description	: (Desc	ribe to t	he dept	h neede	d to do	cument	the indi	cator c	or confirm the a	bsence of indicators.)				
				Mottles				ĺ						
Depth (Inches)	Color	Matrix	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks				
0-12	10YR	2/1	95	10YR	4/6	5	С	M	Clay Loam	Remarks				
0 12	10111			10111	.,,	<del>l                                     </del>	<del>-</del>		Olay Loani					
						-								
Type: C = Concentra	ation, D =	Depleti	on, RM	= Reduc	ed Matr	ix, MS =	Masked	Sand	L Grains. **Lo	L cation: PL = Pore Lining, M = Matri:				
Hydric Soil Indi		· ·				,				Problematic Hydric Soils:				
Histisol (A1)				Sar	dy Gleye	ed Matrix	(S4)	Г	cm Muck (A9)	_				
Histic Epipedon (	(A2)				idy Redo		,	Ī		dox (A16) (LRR K, L, R)				
Black Histic (A3)					pped Ma	, ,		Ī	ark Surface (S					
Hydrogen Sulfide	. ,					ky Minera				ressions (F16) (LRR H, outside MLRA				
Stratified Layers					, ,	ed Matrix	` '	г	72,73)	(540)				
1 cm Muck (A9) ( Depleted Below I			\			atrix (F3) Surface		-	educed Vertic ed Parent Mate					
Thick Dark Surfa		ace (AT	,			ark Surfa	` '	<u> </u>		rk Surface (TF12)				
Sandy Mucky Mir	,	)				essions (	` '	<u> </u>	ther (explain in	` ,				
2.5 cm Mucky Pe			RR G,H)				ions (F16	6)		,				
5 cm Mucky Pea						of LRR H				tic vegetation and weltand hydrology must be unless disturbed or problematic				
		Ch	eck her	e if indi	cators a	re not p	resent:		present, t	unices distance of problematic				
Restrictive Layer (i	f observ	red):												
Type:			De	oth (inch	es):			H	ydric soil prese	nt? Y				
Remarks:														
Hydric soils present.														
HYDROLOGY														
Wetland Hydrology	Indicat	ors:												
Primary Indicators (r	minimum	of one i	s reauir	ed: chec	k all that	t apply)			Secondary Ind	icators (minimum of two required)				
Surface Water (A			•	· [		ıst (B11)				Soil Cracks (B6)				
High Water Table	,				l.	Fauna (I				ely Vegetated Concave Surface (B8)				
✓ Saturation (A3)	( )					•	e Odor (C	21)		e Patterns (B10)				
Water Marks (B1	)				Dry Sea	son Wat	er Table	(C2)	Oxidized	d Rhizospheres on Living Roots				
Sediment Deposi	its (B2)				Oxidized	d Rhizos	pheres o	n Living	(tilled) (	C3)				
Drift Deposits (B3						not tilled)				Burrows (C8)				
Algal Mat or Crus							luced Iro	n (C4)		on Visible on Aerial Imagery (C9)				
Iron Deposits (B5	,				=	ıck Surfa	, ,			phic Position (D2)				
Inundation Visible		-	ry (B7)		Other (E	Explain ir	Remark	s)		eutral Test (D5)				
Water-Stained Le	eaves (B								Frost-He	eaved Hummocks (LRR F)				
F'-1101		Che	eck here	if indic	ators a	re not p	resent:	L						
Field Observations Surface water prese		Yes		No		Depth (	inches):	12-	_					
Water table present		Yes	✓ ✓	No	H		inches):	6		licators of wetland				
Saturation present?	:	Yes	\ <u>\</u>	No	H		inches):	0	_	/drology present? Y				
(includes capillary fr	inge)	103	Ů	140	Ш	Бериі (	11101103).			— I				
		orded da	ita (etro	am doug	e monit	oring w	المعتما	nhotos	nrevious inspo	ctions), if available:				
Desc	STIDE LEC	oru <del>c</del> u da	iia (Sii e	ani yaug	e, monit	Jing We	n, aciidi	ριισισε	, previous irispe	olions), ii avaliabie.				
Remarks:														
Wetland hydrology i	ndicators	presen	Ι.											

Project/Site Falkirk Ethanol Plant Lateral (Blue I	Flint Line) City/	County:	McLean	Sampling Date:	5/6/21
Applicant/Owner: WBI Energy Transmission,	Inc.	State:	ND	Sampling Point:	8u
Investigator(s): LT/AG		Section	on, Township	o, Range: S24, T1	45N, R82W
Landform (hillslope, terrace, etc.):	hillslope	Local re	elief (concav	e, convex, none):	convex
Slope (%): 5 Lat: 47.3	71257	Long:	-101.0621	11 Datum:	WGS 84
Soil Map Unit Name Tonka-Parnell com	plex, 0 to 1 percer	nt slopes	NWI (	Classification:	-
Subregion (MLRA or LRR): F	Are climatic/hy	drologic cond	ditions of the	site typical for this time of the	ne year? Y
Are vegetation , soil , or hydrology	significantly	disturbed?	Are "nor	mal circumstances" present	? Y
Are vegetation , soil , or hydrology	naturally pro	oblematic?	(If neede	ed, explain any answers in re	emarks.)
<b>SUMMARY OF FINDINGS - Attach site</b>	map showing	sampling	point loca	tions, transect, import	ant features, etc.
Hydrophytic vegetation present?	N	Is the sa	ampled area	within a wetland?	V
Hydric soil present?	N				
Indicators of wetland hydrology present?	N				
Remarks: (Explain alternative procedures here	or in a separate re	port.)			
		F/			
VEGETATION - Use scientific names of	of plants.				
	Absolute	Dominant	Indicator	Dominance Test Worksh	neet
Tree Stratum (Plot size: 30 ft	_) % Cover	Species	Staus	Number of Dominant Specie	es
1				that are OBL, FACW, or FA	C: 0 (A)
2				Total Number of Domina	
3				Species Across all Strat	
4				Percent of Dominant Specie	
] <sup>3</sup>		= Total Cover		that are OBL, FACW, or FA	C: 0.00% (A/B)
Sapling/Shrub stratum (Plot size: 15 ft	)	- Total Govel		Prevalence Index Works	heet
1				Total % Cover of:	
2				OBL species 0 x	1 = 0
3				FACW species 0 x	2 = 0
4				· —	3 = 0
5		<del></del>			4 = 0
Howh stratum (Dist size) 5 ft	\ <u> </u>	= Total Cover	•	· —	5 = 0
Herb stratum (Plot size: 5 ft	)			Column totals 0 (A Prevalence Index = B/A =	A) <u>0</u> (B)
2				Trevalence index - B/Tt -	
3				Hydrophytic Vegetation	Indicators:
4				Rapid test for hydroph	ytic vegetation
5				Dominance test is >50	)%
6				Prevalence index is ≤	3.0*
7				Morphogical adaptation	
8				supporting data in Rei	marks or on a
9 10				separate sheet)	tia vagatatian*
		= Total Cover		Problematic hydrophy (explain)	uc vegetation
Woody vine stratum (Plot size: 30 ft	,			<del></del> · · · ·	rational burdenic au mount bo
1				*Indicators of hydric soil and w present, unless disturb	, ,,
2				Hydrophytic	
W.B. G. Li H. G. J.	0	= Total Cover		vegetation	
% Bare Ground in Herb Statum 100				present? N	
Remarks: (Include photo numbers here or on a Bare with <i>Bromus inermis</i> nearby.	separate sneet)				
Dailo With Diomas memis nearby.					

SOIL Sampling Point: 8u

Profile Description	: (Desci	ribe to t	he dept	h neede	d to do	cument	the indi	cator c	or confirm the a	bsence of indicators.)			
-	Matrix					Mottles				,			
Depth (Inches)	Color (		%	Color	(moist)	%	Type*	Loc**	Texture	Remarks			
0-8	10YR	2/2	100	COIOI	(IIIOISt)	/0	Турс	LOC	rexture	Remarks			
8-25	10YR	4/2	100										
0-23	10111	7/2	100										
Type: C = Concentra	ation. D =	Depleti	on. RM	= Reduc	ed Matr	<u>I</u> ix. MS =	Masked	Sand	<u>I                                    </u>	cation: PL = Pore Lining, M = Matri:			
Hydric Soil Ind			J.,			.,				Problematic Hydric Soils:			
Histisol (A1)				□Bar	dv Gleve	ed Matrix	(S4)	Г	cm Muck (A9)	-			
Histic Epipedon (	(A2)				dy Redo		,			dox (A16) (LRR K, L, R)			
Black Histic (A3)					oped Ma	` '		Ī	ark Surface (S7				
Hydrogen Sulfide						ky Minera				ressions (F16) (LRR H, outside MLRA			
Stratified Layers					, ,	ed Matrix atrix (F3)	(F2)	Г	72,73)	(F10)			
1 cm Muck (A9) ( Depleted Below I			1)			Surface	(F6)	-	educed Vertic ed Parent Mate	` ,			
Thick Dark Surfa		ace (AT	')			ark Surfa	` '	[		rk Surface (TF12)			
Sandy Mucky Min	, ,	)				essions (	` '	Ī	ther (explain in	` ,			
2.5 cm Mucky Pe			RR G,H)				ons (F16	6)		,			
5 cm Mucky Pea						of LRR H		´ *Ir		ic vegetation and weltand hydrology must be Inless disturbed or problematic			
		Ch	eck her	e if indi	cators a	re not p	resent:	<b>V</b>	ргозопт, с	mices distribed of problematic			
Restrictive Layer (i	f observ	red):											
Type:			Dep	oth (inch	es):			Н	ydric soil prese	nt? <u>N</u>			
Remarks:													
Hydric soils absent.													
HYDROLOGY													
Wetland Hydrology	Indicat	ore:											
-				مماء بامم	امالا الما	t annly ()			0				
Primary Indicators (		or one i	s require	ea; cnec						icators (minimum of two required)			
Surface Water (A	,			<u> </u>	L	ıst (B11)	242)			Soil Cracks (B6)			
High Water Table	e (AZ)			-		Fauna (I	•	24)	Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10)				
Saturation (A3) Water Marks (B1	\						e Odor (C	,	= -	d Rhizospheres on Living Roots			
Sediment Depos	,			Dry Season Water Table (C2 Oxidized Rhizospheres on Li				` '					
Drift Deposits (B	` '				•	not tilled)		II LIVIIIG		Burrows (C8)			
Algal Mat or Crus							luced Iro	n (C4)		on Visible on Aerial Imagery (C9)			
Iron Deposits (B5	. ,					ick Surfa		II (O+)		phic Position (D2)			
Inundation Visible	,	al Image	rv (B7)				Remark	s)	=	utral Test (D5)			
Water-Stained Le		-	., (5.)	_	]00. (2	-хрічіі і	rtomant	,		eaved Hummocks (LRR F)			
	(		eck here	if indic	ators a	re not p	resent:	<b>_</b>		(2)			
Field Observations	: :		JON HOIC	, ii iiiaic	atoro a	i c not p							
Surface water prese		Yes		No	[J]	Depth (	inches):						
Water table present		Yes	Ħ	No		Depth (	inches):		Inc	licators of wetland			
Saturation present?		Yes	Ħ	No			inches):		hy	drology present? N			
(includes capillary fr	inge)						•		<del></del>				
Desc	cribe rec	orded da	ata (strea	am gaug	e, monit	oring we	ell, aerial	photos	s, previous inspe	ctions), if available:			
					-			-	<u>'</u>	,			
Remarks:													
	ndicatora	abcont											
Wetland hydrology i	nuicators	ausent	•										

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line) C	ity/County:	McLean	Sampling Date:	5/6/21	
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND	Sampling Point:	8w	
Investigator(s): LT/AG	Section	Section, Township, Range: S24, T145N			
Landform (hillslope, terrace, etc.): depression	Local re	elief (concave	e, convex, none):	oncave	
Slope (%): 0 Lat: 47.371235	Long:	-101.06196	61 Datum:	WGS 84	
Soil Map Unit Name Tonka-Parnell complex, 0 to 1 per	rcent slopes	NWI C	Classification:	-	
Subregion (MLRA or LRR): F Are climatic	c/hydrologic cond	ditions of the	site typical for this time of the	year? Y	
Are vegetation , soil , or hydrology significan	ntly disturbed?	Are "norr	mal circumstances" present?	Υ	
Are vegetation , soil , or hydrology naturally	problematic?	(If neede	ed, explain any answers in rem	narks.)	
SUMMARY OF FINDINGS - Attach site map showi	ng sampling	point locat	tions, transect, importa	nt features, etc.	
Hydrophytic vegetation present? Y			within a wetland?		
Hydric soil present? Y					
Indicators of wetland hydrology present?					
Remarks: (Explain alternative procedures here or in a separate	e report.)				
Tromano. (Explain anomalivo proceduros note of in a coparati	o 10port.)				
VEGETATION - Use scientific names of plants.					
Absolu	ıte Dominant	Indicator	Dominance Test Workshe	et	
Tree Stratum (Plot size: 30 ft ) % Cov		Staus	Number of Dominant Species	;	
1			that are OBL, FACW, or FAC:	0 (A)	
2			Total Number of Dominant		
3			Species Across all Strata:	`	
			Percent of Dominant Species		
5	= Total Cover		that are OBL, FACW, or FAC:	0.00% (A/B)	
Sapling/Shrub stratum (Plot size: 15 ft )		-	Prevalence Index Workshe	eet	
1			Total % Cover of:	301	
2			OBL species 0 x 1	= 0	
3			FACW species 0 x 2	= 0	
4			FAC species 0 x 3	= 0	
5			FACU species 0 x 4		
0	= Total Cover	-	UPL species 0 x 5		
Herb stratum (Plot size: 5 ft )			Column totals 0 (A)	(B)	
			Prevalence Index = B/A =		
3			Hydrophytic Vegetation In	dicators:	
4			Rapid test for hydrophyt		
5			Dominance test is >50%	=	
6			Prevalence index is ≤3.0	0*	
7			Morphogical adaptations	s* (provide	
8			supporting data in Rema	arks or on a	
9			separate sheet)		
10			Problematic hydrophytic	vegetation*	
Woody vine stratum (Plot size: 30 ft )	= Total Cover		X (explain)		
Woody vine stratum (Plot size: 30 ft )			*Indicators of hydric soil and wetl present, unless disturbed	, ,,	
		<del></del>	Hydrophytic	r or problematic	
	= Total Cover		vegetation		
% Bare Ground in Herb Statum100			present? Y		
Remarks: (Include photo numbers here or on a separate sheet	•				
Bare with <i>Bromus inemris</i> nearby. Assume wetland based on	the presence of	hydric soils a	nd wetland hydrology indicato	ors.	

SOIL Sampling Point: 8w

Profile Description	: (Desci	ribe to t	he dept	h neede	d to doo	cument	the indi	cator o	r confirm the a	bsence of indicators.)			
		Matrix				Mottles							
Depth (Inches)	Color (	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks			
0-20	10YR	2/1	100	00.01	(1110101)	,,,	. , , , ,	200	Loam	rtemante			
20-25	10YR	3/1	95	7.5YR	4/4	5	С	М	Clay Loam				
25-32	10YR	4/2	80	7.5YR	4/4	20	С	М	Clay Loam				
		-,-			., .		_						
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix													
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.  **Location: PL = Pore Lining, M = Matrix  Hydric Soil Indicators:  Indicators for Problematic Hydric Soils:													
Hydric Soil Indicators:    Indicators for Problematic Hydric Soils:   Histisol (A1)   Sandy Gleyed Matrix (S4)   cm Muck (A9) (LRR I,J)													
Histic Epipedon (	A2)				dy Redo					dox (A16) (LRR K, L, R)			
Black Histic (A3)	(A A)				pped Mat	, ,	=		ark Surface (S				
Hydrogen Sulfide	` '			_	my Muck	•	` ,	L		ressions (F16) (LRR H, outside MLRA			
Stratified Layers 1 cm Muck (A9) (					my Gleye leted Ma			Г	72,73) educed Vertic	(F18)			
Depleted Below D		-	1)		ox Dark	` ,		-	ed Parent Mate				
Thick Dark Surface			.,		leted Da		` '	-		rk Surface (TF12)			
Sandy Mucky Mir					ox Depre				ther (explain in	remarks)			
2.5 cm Mucky Pe							ons (F16						
5 cm Mucky Peat	or Peat	(S3) (LR	R F)	(MLI	RA 72, 73	of LRR H	1)	^Ir		tic vegetation and weltand hydrology must be unless disturbed or problematic			
		Ch	eck her	e if indi	cators a	re not p	resent:		·	·			
Restrictive Layer (i	f observ	red):											
Type:			Dep	oth (inch	es):			H	ydric soil prese	nt? Y			
Remarks:													
Hydric soils present.													
,													
HYDROLOGY													
Wetland Hydrology													
Primary Indicators (r	<u>minimum</u>	of one	<u>is require</u>	ed; chec	k all that	apply)				icators (minimum of two required)			
Surface Water (A	,				Salt Cru	,				Soil Cracks (B6)			
High Water Table	e (A2)				Aquatic	•	•			ely Vegetated Concave Surface (B8)			
Saturation (A3)							e Odor (C	,	= -	e Patterns (B10)			
Water Marks (B1	,						er Table	. ,		d Rhizospheres on Living Roots			
Sediment Deposi	. ,				-		pheres or	n Living		•			
Drift Deposits (B3					Roots (n		. ,	- (04)		Burrows (C8)			
Algal Mat or Crus	. ,						luced Iro	n (C4)		on Visible on Aerial Imagery (C9)			
Iron Deposits (B5		al Imaga	ry (B7)		Thin Mu		ce (C <i>r)</i> Remark	c)	_	phic Position (D2) autral Test (D5)			
Water-Stained Le		•	ту (Бт)		Other (E	хріані ін	Remark	5)		eaved Hummocks (LRR F)			
	aves (De			:f :!: .	_4			_		eaved Hummocks (ERRT)			
Field Observations		Ch	eck here	e if indic	ators ar	e not p	resent:	L					
Surface water prese		Yes		No	[./]	Depth (	inches):						
Water table present?		Yes	H	No			inches):			licators of wetland			
Saturation present?	-	Yes	H	No	H		inches):			/drology present? Y			
(includes capillary fri	inge)	. 55			ت	(							
		orded d	ata (strea	am daud	e. monit	orina we	ell aerial	photos	previous inspe	ctions), if available:			
Desc		-, aoa a	(01106	gaug	-, mont	y w	, acriai	p.10103	, proviodo mope	energy, it available.			
Remarks:													
Wetland hydrology ir	naicators	presen	ι.										

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Lin	ne) City/	County:	McLear	n Sampling l	Date: 5/6/21
Applicant/Owner: WBI Energy Transmission, Inc.		State:	ND	Sampling F	Point: 9u
Investigator(s): LT/AG		Section	on, Townshi	p, Range:	S23, T145N, R82W
Landform (hillslope, terrace, etc.): hillslo	оре	Local r	elief (concav	ve, convex, none):	convex
Slope (%): 5 Lat: 47.368839		Long:	-101.0852	.65 Datum:	WGS 84
Soil Map Unit Name Bowdle loam, 0 to 2	percent slo	pes	NWI (	Classification:	-
Subregion (MLRA or LRR): F Are	climatic/hy	ydrologic con	ditions of the	site typical for this ti	ime of the year? Y
Are vegetation , soil , or hydrology s	significantly	disturbed?	Are "nor	mal circumstances" ¡	present? Y
Are vegetation , soil , or hydrology , or	naturally pr	oblematic?	(If neede	ed, explain any answ	ers in remarks.)
SUMMARY OF FINDINGS - Attach site map	showing	sampling	point loca	itions, transect, i	mportant features, etc
Hydrophytic vegetation present? N		Is the s	ampled area	within a wetland?	N
Hydric soil present? N					
Indicators of wetland hydrology present?					
Remarks: (Explain alternative procedures here or in a	separate re	eport.)			
Tromante: (Explain alternative procedures here of in a	ooparato re	, port			
VEGETATION - Use scientific names of plan	nts.				
[	Absolute	Dominant	Indicator	Dominance Test \	Worksheet
<u>Tree Stratum</u> (Plot size: 30 ft )	% Cover	Species	Staus	Number of Dominar	nt Species
1				that are OBL, FACW	V, or FAC: 0 (A)
2				Total Number of	
3				Species Across	
4				Percent of Dominar	•
5	0	= Total Cover		that are OBL, FACW	V, or FAC: 0.00% (A/B)
Sapling/Shrub stratum (Plot size: 15 ft )		- Total Cover	l	Prevalence Index	Worksheet
1				Total % Cover of:	VOIRONOCE
2				OBL species	0 x 1 = 0
3				FACW species	0 x 2 = 0
4				FAC species	0 x 3 = 0
5				FACU species	0 x 4 = 0
	0	= Total Cover	Г	UPL species	$0 \times 5 = 0$
Herb stratum (Plot size: 5 ft )				Column totals	0 (A) 0 (B)
2				Prevalence Index =	= B/A =
3				Hydronhytic Vege	etation Indicators:
4					hydrophytic vegetation
5				Dominance tes	
6				Prevalence inc	dex is ≤3.0*
7				Morphogical a	daptations* (provide
8				supporting dat	a in Remarks or on a
9				separate shee	
10		<del></del>			ydrophytic vegetation*
Mondaying stretum (Diet size) 20 ft	0	= Total Cover	ſ	— (explain)	
Woody vine stratum (Plot size: 30 ft )				,	soil and wetland hydrology must be ss disturbed or problematic
2				Hydrophytic	sa disturbed of problematic
	0	= Total Cover	r	vegetation	
% Bare Ground in Herb Statum 100				present?	<u>N</u>
Remarks: (Include photo numbers here or on a separa	ite sheet)				
Vegetation absent in upland.					

SOIL Sampling Point: 9u

<b>Profile Description</b>	: (Desc	ribe to t	he dept	n neede	d to do	cument	the indi	cator c	or confirm the a	bsence of indicators.)		
	ofile Description: (Describe to the depth needed to do  Matrix											
Depth (Inches)	Color	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks		
0-22	10YR	2/2	100		)		- /-		Clay Loam			
22-40	10YR	3/1	100						Clay Loam			
									-			
Type: C = Concentra		= Depleti	on, RM	= Reduc	ed Matri	ix, MS =	Masked			cation: PL = Pore Lining, M = Matri		
Hydric Soil Indicators:    Indicators for Problematic Hydric Soils:   Indicators for Problematic Hydric Soils:   Cm Muck (A9) (LRR I,J)												
Histisol (A1)	· - <u></u>						(S4)	Ę	cm Muck (A9)			
Histic Epipedon (					ndy Redo			Į		dox (A16) (LRR K, L, R)		
Black Histic (A3) Hydrogen Sulfide					pped Ma my Mucl	, ,	al (F1)	-	ark Surface (Si	ressions (F16) (LRR H, outside MLRA		
Stratified Layers		R F)		_	my Gley	•	` '	L		(1 10) (LRK II, Outside WERA		
1 cm Muck (A9) (	` ' '	•			oleted Ma			[	educed Vertic			
Depleted Below [			1)		dox Dark		` '	[	ed Parent Mate			
Thick Dark Surfa	, ,				oleted Da		` '	Ļ		rk Surface (TF12)		
Sandy Mucky Mir 2.5 cm Mucky Pe	` .	,	DD C II/		dox Depre		(F8) ions (F16	:) [	ther (explain in	remarks)		
5 cm Mucky Pear					RA 72, 73				ndicators of hydrophy	tic vegetation and weltand hydrology must be		
,		. , .	eck her					<b>V</b>	present, ı	unless disturbed or problematic		
Restrictive Layer (i	f observ		ECK HEI	e II IIIai	Lators	ILE LIOL P	Tesent.					
Type:	I UDGC: •	reaj.	Der	oth (inch	es).			Н	ydric soil prese	nt? N		
Remarks:				701 (11.15				• •	yario son press	14		
Hydric soils absent.												
Tyunc sons absent.												
HYDROLOGY												
Wetland Hydrology	/ Indicat	ors:										
Primary Indicators (r	<u>minimum</u>	of one	<u>is require</u>	<u>∍d; chec</u>	k all that	t apply)			Secondary Ind	icators (minimum of two required)		
Surface Water (A	١1)				Salt Cru	ıst (B11)				Soil Cracks (B6)		
High Water Table	∍ (A2)				Aquatic	•				ely Vegetated Concave Surface (B8)		
Saturation (A3)				Ļ			e Odor (C	,	= -	e Patterns (B10)		
Water Marks (B1				L	= -		er Table	` '		d Rhizospheres on Living Roots		
Sediment Deposit	. ,				_		pheres of	n Living		•		
Drift Deposits (B3	•				_ `	not tilled)	duced Iro	n (C4)		n Burrows (C8) on Visible on Aerial Imagery (C9)		
Iron Deposits (B5				-	Thin Mu			11 (04)		phic Position (D2)		
Inundation Visible		al Image	rv (B7)				Remark	s)	=	eutral Test (D5)		
Water-Stained Le		•	., (=.,		] = (=			-,	=	eaved Hummocks (LRR F)		
		,	eck here	if indic	ators a	re not n	resent:	<b>√</b>		,		
Field Observations	<u></u>		2011 1101 0		ato.c u	. с пет р						
Surface water prese	nt?	Yes		No	$\checkmark$	Depth (	inches):					
Water table present	?	Yes		No	7	Depth (	inches):		Inc	licators of wetland		
Saturation present?		Yes		No	<b>✓</b>	Depth (	inches):		hy	/drology present? N		
(includes capillary fr	inge)											
Desc	cribe rec	orded da	ata (strea	am gaug	e, monit	oring we	ell, aerial	photos	s, previous inspe	ctions), if available:		
Remarks:												
Wetland hydrology i	ndicators	s absent										

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line) City/O	County:	McLean	Sampling Date: 5/6/21
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND	Sampling Point: 9w
Investigator(s): LT/AG	Section	on, Township	o, Range: S23, T145N, R82W
Landform (hillslope, terrace, etc.): drainageway	Local re	elief (concav	e, convex, none): concave
Slope (%): 2 Lat: 47.368821	Long:	-101.0851	64 Datum: WGS 84
Soil Map Unit Name Bowdle loam, 0 to 2 percent slop	oes	NWI	Classification: -
Subregion (MLRA or LRR): F Are climatic/hy	drologic cond	ditions of the	site typical for this time of the year? Y
Are vegetation $\  \  \  \  \  \  \  \  \  \  \  \  \ $	disturbed?	Are "nor	mal circumstances" present? Y
Are vegetation $\  \  \  \  \  \  \  \  \  \  \  \  \ $	oblematic?	(If neede	ed, explain any answers in remarks.)
SUMMARY OF FINDINGS - Attach site map showing	sampling	point loca	tions, transect, important features, etc.
Hydrophytic vegetation present? Y	Is the sa	ampled area	within a wetland? Y
Hydric soil present? Y			
Indicators of wetland hydrology present? Y			
Remarks: (Explain alternative procedures here or in a separate re	port.)		
VEGETATION - Use scientific names of plants.			
Absolute	Dominant	Indicator	Dominance Test Worksheet
<u>Tree Stratum</u> (Plot size: <u>30 ft</u> ) % Cover	Species	Staus	Number of Dominant Species
			that are OBL, FACW, or FAC:(A)
3			Total Number of Dominant Species Across all Strata: 1 (B)
			Percent of Dominant Species
5			that are OBL, FACW, or FAC: 100.00% (A/B)
	= Total Cover		`` ,
Sapling/Shrub stratum (Plot size: 15 ft )			Prevalence Index Worksheet
1			Total % Cover of:
			OBL species 0 x 1 = 0
3			FACW species 10 x 2 = 20 FAC species 0 x 3 = 0
			FAC species $0 \times 3 = 0$ FACU species $0 \times 4 = 0$
	= Total Cover		UPL species 0 x 5 = 0
Herb stratum (Plot size: 5 ft )			Column totals 10 (A) 20 (B)
1 Hordeum jubatum 10	Υ	FACW	Prevalence Index = $B/A = 2.00$
2			
3			Hydrophytic Vegetation Indicators:
4			Rapid test for hydrophytic vegetation  X Dominance test is >50%
5			X Prevalence index is ≤3.0*
7			<del></del>
8			Morphogical adaptations* (provide supporting data in Remarks or on a
9			separate sheet)
10			Problematic hydrophytic vegetation*
10:	= Total Cover		(explain)
Woody vine stratum (Plot size: 30 ft )			*Indicators of hydric soil and wetland hydrology must be
1			present, unless disturbed or problematic
2	= Total Cover		Hydrophytic vegetation
% Bare Ground in Herb Statum 90	10101 00101		present? Y
Remarks: (Include photo numbers here or on a separate sheet)			
Hydrophytic vegetation dominates.			

SOIL Sampling Point: 9w

Profile Description:	: (Desc	ribe to t	he depti	n neede	d to doo	cument	the indi	cator o	r confirm the a	bsence of indicators.)				
-	·	Matrix	-			Mottles				-				
Depth (Inches)	Color	(moist)	%	Color	moist)	%	Type*	Loc**	Texture	Remarks				
0-18	10YR	2/1	95	7.5YR	4/4	5	C	M	Clay Loam					
18-30	10YR	4/2	90	10YR	4/6	10	С	М	Clay Loam					
									,					
Super C = Concentration, D = Depletion, PM = Peduced Matrix, MS = Macked Sand Crains														
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.  **Location: PL = Pore Lining, M = Matrix														
Hydric Soil Indicators:  Indicators for Problematic Hydric Soils:														
Histisol (A1) Sandy Gleyed Matrix (S4) Cm Muck (A9) (LRR I,J) Histic Epipedon (A2) Sandy Redox (S5) Doast Prairie Redox (A16) (LRR K, L, R)														
Histic Epipedon (	A2)									dox (A16) (LRR K, L, R)				
Black Histic (A3)	(4.4)				ped Mat	, ,	1 (54)	_	ark Surface (S7					
Hydrogen Sulfide Stratified Layers	. ,	) E/			•	y Minera ed Matrix	` '	L	ligh Plains Depi <b>72,73)</b>	essions (F16) (LRR H, outside MLRA				
1 cm Muck (A9) (				_	leted Ma		(1 2)	Г	educed Vertic	(F18)				
Depleted Below D		-	)			Surface	(F6)	-	ed Parent Mate	` '				
Thick Dark Surface		`	,	Dep	leted Da	rk Surfac	ce (F7)		ery Shallow Da	rk Surface (TF12)				
Sandy Mucky Mir	`	,		Red	ox Depre	essions (	F8)		ther (explain in	remarks)				
2.5 cm Mucky Pe		, , .	-				ons (F16			i				
5 cm Mucky Peat	or Peat	(S3) (LRI	RF)	(MLI	RA 72, 73	of LRR H	)	"Ir		ic vegetation and weltand hydrology must be inless disturbed or problematic				
			eck her	e if indi	cators a	re not p	resent:							
Restrictive Layer (i	f observ	red):												
Type:			Dep	th (inch	es):			H	ydric soil prese	nt? <u>Y</u>				
Remarks:														
Hydric soils present.														
Hydric soils present.														
Hydric soils present.  HYDROLOGY		ore:												
Hydric soils present.  HYDROLOGY  Wetland Hydrology	Indicat					anniu)			0					
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r	Indicat		s require	ed; chec						icators (minimum of two required)				
HYDROLOGY Wetland Hydrology Primary Indicators (r	Indicat		s require	ed; chec	Salt Cru	st (B11)	242)		✓Surface	Soil Cracks (B6)				
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r  Surface Water (A	Indicat		s require	ed; chec	Salt Cru Aquatic	st (B11) Fauna (E	,	~4)	✓ Surface Sparse	Soil Cracks (B6) ly Vegetated Concave Surface (B8)				
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r  Surface Water (A  High Water Table  Saturation (A3)	Indicat minimum 1) e (A2)		s require	ed; chec	Salt Cru Aquatic Hydroge	st (B11) Fauna (E n Sulfide	e Odor (C	,	✓ Surface ☐ Sparse ☐ Drainag	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10)				
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1	Indicat minimum 11) e (A2)		s require	ed; chec	Salt Cru Aquatic Hydroge Dry Sea	st (B11) Fauna (E en Sulfide son Wat	e Odor (0 er Table	(C2)	Surface Sparse Drainag Oxidized	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots				
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r  Surface Water (A  High Water Table  Saturation (A3)  Water Marks (B1  Sediment Deposi	Indicat minimum (1) e (A2) ) ts (B2)		s require	ed; chec	Salt Cru Aquatic Hydroge Dry Sea Oxidized	st (B11) Fauna (E en Sulfide son Wat I Rhizos	e Odor (C er Table pheres o	(C2)	Surface Sparse Drainag Oxidized	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3)				
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r  Surface Water (A  High Water Table  Saturation (A3)  Water Marks (B1  Sediment Deposi  Drift Deposits (B3)	Indicat minimum (1) e (A2) ) ts (B2)		s require	ed; chec	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r	st (B11) Fauna (Een Sulfide son Wated Rhizos dot tilled)	e Odor (Cer Table oheres of (C3)	(Ć2) n Living	Surface Sparse Drainag Oxidized (tilled) ((	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8)				
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3	r Indicat minimum (1) e (A2) ) ts (B2) B) st (B4)		s require	ed; chec	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presenc	st (B11) Fauna (En Sulfide son Wat d Rhizos not tilled)	e Odor (Cer Table oheres of (C3)	(Ć2) n Living	Surface Sparse Drainag Oxidized (tilled) (( Crayfish	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9)				
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposi Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5	r Indicat minimum (1) e (A2) ) ts (B2) B) st (B4)	of one i		ed; chec	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend	st (B11) Fauna (En Sulfide son Wat d Rhizos not tilled) e of Red ck Surfa	e Odor (Cer Table oheres of (C3) luced Irol	(C2) n Living n (C4)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)				
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible	r Indicat minimum (1) e (A2) ) ts (B2) 3) st (B4) 5)	of one i		ed; chec	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend	st (B11) Fauna (En Sulfide son Wat d Rhizos not tilled) e of Red ck Surfa	e Odor (Cer Table oheres of (C3)	(C2) n Living n (C4)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)				
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposi Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5	r Indicat minimum (1) e (A2) ) ts (B2) 3) st (B4) 5)	of one i	ry (B7)		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (Een Sulfide son Watel Rhizosp not tilled) de of Red ck Surfa	e Odor (Cer Table oheres of (C3) luced Irolace (C7) Remark	(C2) n Living n (C4)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)				
Hydric soils present.  HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crust Iron Deposits (B5 Inundation Visible Water-Stained Le	Indicat minimum (1) e (A2) ) ts (B2) 3) et (B4) 5) e on Aeri eaves (B9	of one i			Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (Een Sulfide son Watel Rhizosp not tilled) de of Red ck Surfa	e Odor (Cer Table oheres of (C3) fluced Iron (C7) Remark	(C2) n Living n (C4)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)				
Hydric soils present.  HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le	Indicat minimum (1) e (A2) ) ts (B2) 3) et (B4) 6) e on Aeri eaves (Bs	al Image	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (I Fau	e Odor (Cer Table otheres of (C3) luced Iroloce (C7) Remark	(C2) n Living n (C4)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)				
Hydric soils present.  HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crust Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese	Indicat minimum  (1) (A2) (B2) (B3) (B4) (B4) (B4) (B4) (B4) (B4) (B4) (B4	al Image  Che	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat I Rhizosp ot tilled) e of Red ck Surfa explain in Depth (	e Odor (Cer Table otheres or (C3) luced Irol (C7) Remark	(C2) n Living n (C4)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati Geomor FAC-Ne	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)				
Hydric soils present.  HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present	Indicat minimum  (1) (A2) (B2) (B3) (B4) (B4) (B4) (B4) (B4) (B4) (B4) (B4	al Image  Che  Yes  Yes	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat I Rhizos jot tilled) e of Red ck Surfa explain in  Depth ( Depth (	e Odor (Cer Table otheres of (C3) (C7) Remark resent:	(C2) n Living n (C4)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)				
Hydric soils present.  HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present?	Indicat minimum 1) e (A2) ) ts (B2) st (B4) b) e on Aeri eaves (B9 : nt? ?	al Image  Che	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat I Rhizos jot tilled) e of Red ck Surfa explain in  Depth ( Depth (	e Odor (Cer Table otheres or (C3) luced Irol (C7) Remark	(C2) n Living n (C4)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)				
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present? Saturation present? (includes capillary fri	Indicateminimum (1) (A2) (A2) (A2) (B3) (B4) (B4) (B4) (B4) (B4) (B4) (B4) (B4	al Image  Che  Yes  Yes  Yes	ry (B7) eck here	if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E  ators ar	st (B11) Fauna (En Sulfide son Wat d Rhizos, not tilled) e of Red ck Surfa explain in re not pi  Depth ( Depth (	e Odor (Cer Table beheres of (C3) luced Irol (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (0 Crayfish Saturati Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)				
Hydric soils present.  HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present? Saturation present? (includes capillary fri	Indicateminimum (1) (A2) (A2) (A2) (B3) (B4) (B4) (B4) (B4) (B4) (B4) (B4) (B4	al Image  Che  Yes  Yes  Yes	ry (B7) eck here	if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E  ators ar	st (B11) Fauna (En Sulfide son Wat d Rhizos, not tilled) e of Red ck Surfa explain in re not pi  Depth ( Depth (	e Odor (Cer Table beheres of (C3) luced Irol (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (0 Crayfish Saturati Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)				
Hydric soils present.  HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present? Saturation present? (includes capillary fri	Indicateminimum (1) (A2) (A2) (A2) (B3) (B4) (B4) (B4) (B4) (B4) (B4) (B4) (B4	al Image  Che  Yes  Yes  Yes	ry (B7) eck here	if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E  ators ar	st (B11) Fauna (En Sulfide son Wat d Rhizos, not tilled) e of Red ck Surfa explain in re not pi  Depth ( Depth (	e Odor (Cer Table beheres of (C3) luced Irol (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (0 Crayfish Saturati Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)				
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present? Saturation present? (includes capillary fri	r Indicateminimum (1) (e (A2) ) ts (B2) (f) (f) (f) (f) (f) (f) (f) (f) (f) (f	al Image  Ohe  Yes  Yes  Yes  Yes  Orded da	ry (B7)  eck here	if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E  ators ar	st (B11) Fauna (En Sulfide son Wat d Rhizos, not tilled) e of Red ck Surfa explain in re not pi  Depth ( Depth (	e Odor (Cer Table beheres of (C3) luced Irol (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (0 Crayfish Saturati Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)				

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line) City/	/County:	McLean	Sampling Date: 5/6/21
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND	Sampling Point: 10u
Investigator(s): LT/AG	Section	n, Township,	Range: S23, T145N, R82W
Landform (hillslope, terrace, etc.): hillslope	Local rel	lief (concave	, convex, none): convex
Slope (%): 5 Lat: 47.369867	Long:	-101.095938	8 Datum: WGS 84
Soil Map Unit Name Williams-Zahl-Zahill complex, 6 to 9 per	rcent slopes	NWI CI	assification: -
		 itions of the s	site typical for this time of the year? Y
Are vegetation , soil , or hydrology significantly	/ disturbed?	Are "norm	nal circumstances" present?
Are vegetation , soil , or hydrology naturally pr	oblematic?	(If needed	d, explain any answers in remarks.)
SUMMARY OF FINDINGS - Attach site map showing	յ sampling p	oint locati	ions, transect, important features, etc.
Hydrophytic vegetation present?	Is the sar	mpled area v	within a wetland? N
Hydric soil present?			
Indicators of wetland hydrology present?			
Remarks: (Explain alternative procedures here or in a separate re	eport.)		
	-F,		
VEGETATION - Use scientific names of plants.			
Absolute	Dominant I	Indicator	Dominance Test Worksheet
Tree Stratum (Plot size: 30 ft ) % Cover	Species	0.1	Number of Dominant Species
1		1	that are OBL, FACW, or FAC:0 (A)
2			Total Number of Dominant
3			Species Across all Strata: 1 (B)
5	. — — -		Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)
	= Total Cover	<u> </u>	that are obt., FACW, or FAC. 0.0070 (AVD)
Sapling/Shrub stratum (Plot size: 15 ft )		-	Prevalence Index Worksheet
1			Total % Cover of:
2	·		OBL species0 x 1 =0
3	· <del></del> -		FACW species 0 x 2 = 0
			FAC species 0 x 3 = 0
5	T 1-1 Cayon		FACU species 0 x 4 = 0
Herb stratum (Plot size: 5 ft )	= Total Cover		UPL species 100 x 5 = 500 (B)
1 Bromus inermis (Flot size)	Υ	UPL	Prevalence Index = B/A = 5.00
2	· <u> </u>		Trovalonos mass. 5,7.
3			Hydrophytic Vegetation Indicators:
4			Rapid test for hydrophytic vegetation
5	·		Dominance test is >50%
6		.	Prevalence index is ≤3.0*
7	. —— -		Morphogical adaptations* (provide
8			supporting data in Remarks or on a separate sheet)
10		<del></del>   ·	Problematic hydrophytic vegetation*
	= Total Cover		(explain)
Woody vine stratum (Plot size: 30 ft )			*Indicators of hydric soil and wetland hydrology must be
1			present, unless disturbed or problematic
2	· <del></del> -		Hydrophytic
0	= Total Cover		vegetation
% Bare Ground in Herb Statum 0			present? N
Remarks: (Include photo numbers here or on a separate sheet) Upland vegetation dominates.			
opiana vogotanom dominatos.			

SOIL Sampling Point: 10u

Profile Description	: (Desc	ribe to t	he dept	n neede	d to do	cument	the indi	cator c	or confirm the a	bsence of indicators.)				
			Mottles											
Depth (Inches)	Color	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks				
0-10	10YR	2/1			ì				Loam					
10-18	10YR	4/3							Clay Loam					
Time: C = Concentre	#iam D =	Danlet	DM	Dadue	- d Motr	MC -	^ 4 = alcod	Cand (	Oi **I o					
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix  Hydric Soil Indicators: Indicators for Problematic Hydric Soils:														
Histisol (A1)	ICalui 5.			□Sar	ndv Gleve	ed Matrix	(\$4)	Г	cm Muck (A9)	-				
Histic Epipedon	(A2)				ndy Redo		(04)			dox (A16) (LRR K, L, R)				
Black Histic (A3)	,			Stri	pped Ma	trix (S6)		Ī	ark Surface (S	7) (LRR K, L)				
Hydrogen Sulfide	. ,					ky Minera		L		ressions (F16) (LRR H, outside MLRA				
Stratified Layers 1 cm Muck (A9)	` '	•				ed Matrix atrix (F3)		Г	72,73) educed Vertic	(F18)				
Depleted Below			1)			Surface			ed Parent Mate	` ,				
Thick Dark Surfa	ce (A12)	•	,	Dep	oleted Da	ark Surfa	ce (F7)	Ī	ery Shallow Da	rk Surface (TF12)				
Sandy Mucky Mi			55 A III			essions (	` '	[	ther (explain in	remarks)				
2.5 cm Mucky Pe 5 cm Mucky Pea						Depress of LRR H	ions (F16 I)		ndicators of hydrophy	ic vegetation and weltand hydrology must be				
p oiii i			eck her						present, u	unless disturbed or problematic				
Restrictive Layer (i	if observ		eck ner	e II IIIui	Caluis	ite nor b	lesen.	<b>✓</b>						
Type:		reaj.	Der	th (inch	es):			Н	ydric soil prese	nt? N				
Remarks:			<u> </u>						,					
Hydric soils absent.														
11, 22														
HYDROLOGY														
Wetland Hydrology														
Primary Indicators (		ı of one ı	is require	ed; chec						icators (minimum of two required)				
Surface Water (A	,			-	4	ıst (B11) Fauna (I				Soil Cracks (B6) ly Vegetated Concave Surface (B8)				
Saturation (A3)	e (AZ)			-	= '	•	e Odor (C	:1)		e Patterns (B10)				
Water Marks (B1	)						er Table		= -	d Rhizospheres on Living Roots				
Sediment Depos					= -		pheres o							
Drift Deposits (B	3)			_		not tilled)			Crayfish	Burrows (C8)				
Algal Mat or Crus					=		duced Iro	n (C4)		on Visible on Aerial Imagery (C9)				
Iron Deposits (B				L	=	ick Surfa	. ,		=	phic Position (D2)				
Inundation Visibl		_	ry (B7)	L	Other (E	Explain in	n Remark	s)		utral Test (D5)				
Water-Stained Lo	eaves (B							_	Frost-He	eaved Hummocks (LRR F)				
Field Observations		Che	eck here	if indic	ators a	re not p	resent:	✓						
Surface water prese		Yes		No	<b></b>	Depth (	inches):							
Water table present		Yes	H	No			inches):		Inc	licators of wetland				
Saturation present?		Yes	H	No	<u>·</u>		inches):		hy	vdrology present? N				
(includes capillary fr	inge)			<u> </u>			· 							
Des	cribe rec	orded da	ata (strea	am gaug	e, monit	oring we	ell, aerial	photos	s, previous inspe	ctions), if available:				
Remarks:														
Wetland hydrology i	ndicators	s absent												

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line) City/0	County:	McLean	Sampling Date: 5/6/21
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND	Sampling Point: 10w
Investigator(s): LT/AG	Section	on, Township	o, Range: S23, T145N, R82W
Landform (hillslope, terrace, etc.): drainageway	Local re	elief (concav	e, convex, none): concave
Slope (%): 1 Lat: 47.369851	Long:	-101.0959	95 Datum: WGS 84
Soil Map Unit Name Williams-Zahl-Zahill complex, 6 to 9 per	cent slopes	NWI (	Classification: -
Subregion (MLRA or LRR): F Are climatic/hy	drologic cond	ditions of the	site typical for this time of the year?
Are vegetation, soil, or hydrology significantly	disturbed?	Are "nor	mal circumstances" present? Y
Are vegetation, soil, or hydrology naturally pro	oblematic?	(If neede	ed, explain any answers in remarks.)
SUMMARY OF FINDINGS - Attach site map showing	sampling	point loca	tions, transect, important features, etc.
Hydrophytic vegetation present? Y	Is the sa	ampled area	within a wetland? Y
Hydric soil present? Y			
Indicators of wetland hydrology present? Y			
Remarks: (Explain alternative procedures here or in a separate re	port.)		
VEGETATION - Use scientific names of plants.			
Absolute	Dominant	Indicator	Dominance Test Worksheet
<u>Tree Stratum</u> (Plot size: <u>30 ft</u> ) % Cover	Species	Staus	Number of Dominant Species
1			that are OBL, FACW, or FAC: 2 (A)
3			Total Number of Dominant Species Across all Strata: 2 (B)
			Species Across all Strata: 2 (B)  Percent of Dominant Species
5			that are OBL, FACW, or FAC: 100.00% (A/B)
	= Total Cover		
Sapling/Shrub stratum (Plot size: 15 ft )			Prevalence Index Worksheet
1			Total % Cover of:
2			OBL species 0 x 1 = 0
3			FACW species 60 x 2 = 120 FAC species 0 x 3 = 0
5			FACU species $0 \times 4 = 0$
	= Total Cover		UPL species $0 \times 5 = 0$
Herb stratum (Plot size: 5 ft )			Column totals 60 (A) 120 (B)
1 Phalaris arundinacea 40	Y	FACW	Prevalence Index = B/A = 2.00
2 Spartina pectinata 20	Y	FACW	
3			Hydrophytic Vegetation Indicators:
5			Rapid test for hydrophytic vegetation  X Dominance test is >50%
6			X Prevalence index is ≤3.0*
7			Morphogical adaptations* (provide
8			supporting data in Remarks or on a
9			separate sheet)
10			Problematic hydrophytic vegetation*
<u> </u>	= Total Cover	•	(explain)
Woody vine stratum (Plot size: 30 ft )			*Indicators of hydric soil and wetland hydrology must be
1 2			present, unless disturbed or problematic  Hydrophytic
	= Total Cover		vegetation
% Bare Ground in Herb Statum 40	. 5.31 50101		present? Y
Remarks: (Include photo numbers here or on a separate sheet)			
Hydrophytic vegetation dominates.			

SOIL Sampling Point: 10w

Profile Description:	: (Desc	ribe to t	he dept	h neede	d to do	cument	the indi	cator c	or confirm the a	bsence of indicators.)			
-		Matrix				Mottles				Í			
Depth (Inches)	Color	(moist)	%	Color	r (moist) % Type* Loc**			L oc**	Texture	Remarks			
Deptif (inches)	COIOI	(IIIOISI)	70	COIOI	(IIIOISI)	70	туре	LOC	Texture	Remarks			
					<del></del>	├──	<del>                                     </del>	$\vdash$					
					$\vdash$								
	<b> </b>				<b>—</b>	<del> </del>		$\vdash$					
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix													
Hydric Soil Indicators: Indicators for Problematic Hydric Soils:													
Histisol (A1)	<b>U</b>			∏San	ıdy Gleye	ed Matrix	(S4)	Г	cm Muck (A9)	-			
Histic Epipedon (	A2)				ndy Redo		(,	[		dox (A16) (LRR K, L, R)			
Black Histic (A3)	,			Stri	pped Ma	trix (S6)		Ī	ark Surface (S7	7) (LRR K, L)			
Hydrogen Sulfide				_	-	ky Minera	. ,		igh Plains Depr	ressions (F16) (LRR H, outside MLRA			
Stratified Layers						ed Matrix		г	72,73)				
1 cm Muck (A9) (			4 \			atrix (F3)		-	educed Vertic				
Depleted Below D			1)			Surface ark Surface	` '	Ĺ	ed Parent Mate	rk Surface (TF12)			
Sandy Mucky Mir	, ,					essions (	` '	L [	ery Shallow Da √ ther (explain in				
2.5 cm Mucky Pe	,	,	RR G.H)			,	ions (F16		ulei (explaii	Telliains)			
5 cm Mucky Peat						of LRR H				iic vegetation and weltand hydrology must be			
		Ch	eck her	e if indi	cators a	re not p	resent:	<b>J</b>	present, c	inless disturbed of problematic			
Restrictive Layer (in	fobserv												
Type:			Dep	oth (inch	es):			H	ydric soil prese	nt?Y			
Remarks:													
No soils were dug du	e to pre	sence o	f railroad	l rock sp	iral. Ass	sume we	tland ba	sed on	presence hydrop	ohytic vegetation and wetland hydro			
HYDROLOGY													
Wetland Hydrology	Indicat	ors:											
Primary Indicators (r	n <u>inimum</u>	ı <u>of one i</u>	is require	ed; chec	k all that	t <u>apply)</u>			Secondary Ind	icators (minimum of two required)			
Surface Water (A						ıst (B11)				Soil Cracks (B6)			
High Water Table	,				4	Fauna (E				ly Vegetated Concave Surface (B8)			
Saturation (A3)						•	e Odor (C	21)		e Patterns (B10)			
Water Marks (B1)	)				Dry Sea	ison Wat	er Table	(C2)	= -	d Rhizospheres on Living Roots			
Sediment Deposi	ts (B2)				Oxidized	d Rhizos	pheres or	n Living	(tilled) (0	C3)			
Drift Deposits (B3	3)					not tilled)			Crayfish	Burrows (C8)			
Algal Mat or Crus	it (B4)				Presenc	ce of Red	duced Iror	n (C4)	Saturation	on Visible on Aerial Imagery (C9)			
Iron Deposits (B5	,				Thin Mu	ıck Surfa	ce (C7)		✓ Geomor	phic Position (D2)			
Inundation Visible	e on Aeria	al Image	ry (B7)		Other (E	Explain in	Remark	.s)		utral Test (D5)			
Water-Stained Le	aves (B9	∍)							Frost-He	eaved Hummocks (LRR F)			
		Che	eck here	if indic	ators a	re not p	resent:						
Field Observations		Voo		No		Denth (	:choo\:						
Surface water present		Yes	$\vdash$	No No	넴		inches):		Inc	licators of wetland			
Water table present? Saturation present?	<b>(</b>	Yes	$\square$	No No			inches):			drology present? Y			
(includes capillary fri	(enci	Yes		No	$\checkmark$	рерш (	inches):			drology present?			
Desc	ribe rec	ordea aa	ata (strea	am gaug	e, monit	oring we	il, aeriai	photos	s, previous inspe	ctions), if available:			
Remarks:													
Wetland hydrology ir	ndicators	presen	t.										

Project/Site Falkirk Ethanol Plant Lateral (Blue I	Flint Line) City/	County:	McLean	Sampling Date:	5/6/21
Applicant/Owner: WBI Energy Transmission,	Inc.	State:	ND	Sampling Point:	11u-1
Investigator(s): LT/AG		Section	on, Township	, Range: S23, T	145N, R82W
Landform (hillslope, terrace, etc.):	toeslope	Local re	elief (concav	e, convex, none):	convex
Slope (%): 3 Lat: 47.3	70422	Long:	-101.0979	48 Datum:	WGS 84
Soil Map Unit Name Williams-Bowbells lo	pams, 3 to 6 perce	ent slopes	NWI C	Classification:	-
Subregion (MLRA or LRR): F	Are climatic/hy	/drologic cond	ditions of the	site typical for this time of	the year? Y
Are vegetation , soil , or hydrology	significantly	disturbed?	Are "nor	mal circumstances" presen	nt? Y
Are vegetation , soil , or hydrology	naturally pr	oblematic?	(If neede	ed, explain any answers in r	remarks.)
SUMMARY OF FINDINGS - Attach site	map showing	sampling	point loca	tions, transect, impor	tant features, etc.
Hydrophytic vegetation present?	N	Is the sa	ampled area	within a wetland?	N
Hydric soil present?	N				
Indicators of wetland hydrology present?	N				
Remarks: (Explain alternative procedures here	or in a separate re	port.)			
Transect point taken on hillside in pasture.		,,			
VEGETATION - Use scientific names of	of plants.				
	Absolute	Dominant	Indicator	Dominance Test Works	heet
Tree Stratum (Plot size: 30 ft	_) % Cover	Species	Staus	Number of Dominant Spec	cies
1	<u> </u>			that are OBL, FACW, or FA	AC: 0 (A)
2				Total Number of Domina	
3				Species Across all Stra	``
4				Percent of Dominant Spec	
] <sup>3</sup>		= Total Cover		that are OBL, FACW, or FA	AC: <u>0.00%</u> (A/B)
Sapling/Shrub stratum (Plot size: 15 ft	,	- Total Govel		Prevalence Index Works	sheet
1				Total % Cover of:	
2				OBL species 0 >	x 1 = 0
3				FACW species 0	x 2 = 0
4				·	x 3 = 0
5				·	x 4 = 400
District	<u> </u>	= Total Cover	•	· —	x 5 = 0
Herb stratum (Plot size: 5 ft 1 Pascopyrum smithii	) 100	Υ	FACU	Column totals 100 ( Prevalence Index = B/A =	(A) $\frac{400}{4.00}$ (B)
2			1 400	 	4.00
3				Hydrophytic Vegetation	Indicators:
4	<del></del>			Rapid test for hydrop	
5				Dominance test is >5	50%
6				Prevalence index is s	≤3.0*
7				Morphogical adaptati	ions* (provide
8				supporting data in Re	emarks or on a
9				separate sheet)	
10	100	= Total Cover		Problematic hydrophy (explain)	ytic vegetation*
Woody vine stratum (Plot size: 30 ft	,	- Total Cover		<del></del> · · · ·	
1				*Indicators of hydric soil and v present, unless distur	, ,,
2				Hydrophytic	
	0	= Total Cover		vegetation	
% Bare Ground in Herb Statum 0	_			present? N	
Remarks: (Include photo numbers here or on a	separate sheet)				
Upland vegetation dominates.					

SOIL Sampling Point: 11u-1

Profile Description	: (Desc	ribe to t	he dept	h neede	d to do	cument	the indi	cator o	r confirm the a	bsence of indicators.)			
		Matrix				Mottles							
Depth (Inches)	Color	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks			
0-12	10YR	2/1	, ,	00.0.	()	,,,	. , , , ,		Loam	, terriainte			
12-20	10YR	4/4							Clay Loam				
		., .							,				
Type: C = Concentra	Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matri												
Hydric Soil Indicators: Indicators for Problematic Hydric Soils:													
Histisol (A1) Sandy Gleyed Matrix (S4) cm Muck (A9) (LRR I,J)													
Histic Epipedon (	A2)				dy Redo		` ,	Ī		dox (A16) (LRR K, L, R)			
Black Histic (A3)					pped Ma	. ,		Ī	ark Surface (S				
Hydrogen Sulfide	. ,				my Muck					ressions (F16) (LRR H, outside MLRA			
Stratified Layers					my Gley		(F2)	г	72,73)	(540)			
1 cm Muck (A9) (			1		oleted Ma lox Dark	` ,	(EG)	-	educed Vertic ed Parent Mate	` '			
Depleted Below I Thick Dark Surfa		ace (A I	)		leted Da		` '	Ļ		rk Surface (TF12)			
Sandy Mucky Mir	,	)			lox Depre		` '	F	ther (explain in	` '			
2.5 cm Mucky Pe			RR G,H)			,	ons (F16	i)		,			
5 cm Mucky Pea					RA 72, 73					ic vegetation and weltand hydrology must be			
		Ch	eck her	e if indi	cators a	re not p	resent:	<b>/</b>	present, t	unless disturbed or problematic			
Restrictive Layer (i	f observ												
Type:		-	Dep	oth (inch	es):			Hy	ydric soil prese	nt? N			
Remarks:									-				
Remarks:													
Hydric soils are absent.													
Hydric soils are abse	ent.												
Hydric soils are abso	ent.												
HYDROLOGY													
		ors:											
HYDROLOGY	Indicat		s require	ed; chec	k all that	: apply)			Secondary Ind	icators (minimum of two required)			
HYDROLOGY Wetland Hydrology	Indicat		s require	ed; chec	k all that				Surface	Soil Cracks (B6)			
HYDROLOGY Wetland Hydrology Primary Indicators (r Surface Water (A	r Indicat		s require			st (B11)	313)		Surface Sparse	Soil Cracks (B6) ly Vegetated Concave Surface (B8)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3)	r Indicat minimum (1) e (A2)		s require		Salt Cru Aquatic Hydroge	st (B11) Fauna (E en Sulfide	e Odor (C		Surface Sparse Drainag	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1	r Indicat minimum (1) e (A2)		s require		Salt Cru Aquatic Hydroge Dry Sea	st (B11) Fauna (E en Sulfide son Wat	e Odor (C er Table	(C2)	Surface Sparse Drainag Oxidized	Soil Cracks (B6) lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposi	r Indicat minimum (1) e (A2) )		s require		Salt Cru Aquatic Hydroge Dry Sea Oxidized	st (B11) Fauna (Een Sulfide son Wat d Rhizos	e Odor (C er Table oheres o	(C2)	Surface Sparse Drainag Oxidized	Soil Cracks (B6) lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit	r Indicat minimum 11) e (A2) ) its (B2) 3)		s require		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r	st (B11) Fauna (Een Sulfide son Wat d Rhizosi not tilled)	e Odor (Cer Table oheres or (C3)	(C2) n Living	Surface Sparse Drainag Oxidized (tilled) ((	Soil Cracks (B6) lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Orift Deposits (B3 Algal Mat or Crus	v Indicat minimum (1) e (A2) ) its (B2) 3) st (B4)		s require		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presenc	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) e of Red	e Odor (Cer Table oheres or (C3)	(C2) n Living	Surface Sparse Drainag Oxidized (tilled) (( Crayfish	Soil Cracks (B6) lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Orift Deposits (B3 Algal Mat or Crus	v Indicateminimum (1) e (A2) ) its (B2) 3) st (B4) 5)	of one i	·		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend	st (B11) Fauna (Een Sulfiderson Wated Rhizosport tilled) ee of Red	e Odor (Cer Table oheres of (C3) luced Iron (C7)	(C2) n Living n (C4)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati	Soil Cracks (B6) lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) l Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible	r Indicat minimum (1) e (A2) ) tts (B2) 3) st (B4) 5) e on Aeria	of one i	·		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend	st (B11) Fauna (Een Sulfiderson Wated Rhizosport tilled) ee of Red	e Odor (Cer Table oheres or (C3)	(C2) n Living n (C4)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati Geomor	Soil Cracks (B6)  lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) l Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Orift Deposits (B3 Algal Mat or Crus	r Indicat minimum (1) e (A2) ) tts (B2) 3) st (B4) 5) e on Aeria	of one i	ry (B7)		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (Een Sulfiderson Wated Rhizosport tilled) the e of Redeck Surfaction in	e Odor (Cer Table oheres of (C3) luced Iron (C7) Remark	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati Geomor	Soil Cracks (B6) lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) l Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le	r Indicat minimum (1) e (A2) ) its (B2) 3) st (B4) 5) e on Aeric eaves (B9	of one i	ry (B7)		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend	st (B11) Fauna (Een Sulfiderson Wated Rhizosport tilled) the e of Redeck Surfaction in	e Odor (Cer Table oheres of (C3) luced Iron (C7) Remark	(C2) n Living n (C4)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati Geomor	Soil Cracks (B6)  lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) l Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le	r Indicat minimum (1) e (A2) ) its (B2) 3) st (B4) 5) e on Aeric eaves (B9	al Image	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in	e Odor (Cer Table otheres of (C3) luced Irol (C7) Remark	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati Geomor	Soil Cracks (B6)  lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) l Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Hagal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese	r Indicat minimum (1) e (A2) ) its (B2) 3) st (B4) 5) e on Aeric eaves (B9	al Image	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in  Depth (	e Odor (Cer Table obheres of (C3) luced Iron (C7) Remark	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (Crayfish Saturati Geomor FAC-Ne	Soil Cracks (B6) bly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposits (B3 Algal Mat or Crus Iron Deposits (B3 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present	r Indicat minimum (1) e (A2) ) its (B2) 3) st (B4) 5) e on Aeric eaves (B9	al Image  Che  Yes  Yes	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat I Rhizos not tilled) ee of Red ck Surfa explain in  Depth ( Depth (	e Odor (Cer Table oberes of (C3) luced Irol ce (C7) Remark resent:	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati Geomor FAC-Ne Frost-He	Soil Cracks (B6) bly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposits (B3 Algal Mat or Crus Iron Deposits (B3 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present?	r Indicat minimum 11) e (A2) ) its (B2) 3) st (B4) 5) e on Aeric eaves (B9 : nt? ?	al Image	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat I Rhizos not tilled) ee of Red ck Surfa explain in  Depth ( Depth (	e Odor (Cer Table obheres of (C3) luced Iron (C7) Remark	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati Geomor FAC-Ne Frost-He	Soil Cracks (B6) bly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fr	r Indicat minimum 11) e (A2) ) its (B2) 3) st (B4) 6) e on Aerie eaves (B9 : nt? ?	al Image  Che  Yes  Yes  Yes	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in  Te not pi  Depth ( Depth (	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (0 Crayfish Saturati Geomor FAC-Ne Frost-He	Soil Cracks (B6)  lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fr	r Indicat minimum 11) e (A2) ) its (B2) 3) st (B4) 6) e on Aerie eaves (B9 : nt? ?	al Image  Che  Yes  Yes  Yes	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in  Te not pi  Depth ( Depth (	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (0 Crayfish Saturati Geomor FAC-Ne Frost-He	Soil Cracks (B6) bly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B3 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fr	r Indicat minimum 11) e (A2) ) its (B2) 3) st (B4) 6) e on Aerie eaves (B9 : nt? ?	al Image  Che  Yes  Yes  Yes	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in  Te not pi  Depth ( Depth (	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (0 Crayfish Saturati Geomor FAC-Ne Frost-He	Soil Cracks (B6)  lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fr	r Indicateminimum (1) e (A2) ) its (B2) st (B4) i) e on Aeric eaves (B9) : int? ?	al Image (i)  Che Yes Yes Yes Orded da	ry (B7)  eck here	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in  Te not pi  Depth ( Depth (	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (0 Crayfish Saturati Geomor FAC-Ne Frost-He	Soil Cracks (B6)  lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint L	ine) City/0	County:	McLean	Sampling Date:	5/6/21
Applicant/Owner: WBI Energy Transmission, Inc.		State:	ND	Sampling Point:	11u-2
Investigator(s): LT/AG		Section	on, Township	o, Range: S23, T1	145N, R82W
Landform (hillslope, terrace, etc.): toes	lope	Local re	elief (concav	re, convex, none):	convex
Slope (%): 5 Lat: 47.369768	3	Long:	-101.0989	99 Datum:	WGS 84
Soil Map Unit Name Harriet-Regan-Stirum comple	ex, 0 to 2 pe	rcent slopes	NWI (	Classification:	-
Subregion (MLRA or LRR): F Ar	e climatic/hy	drologic cond	ditions of the	site typical for this time of t	he year? Y
Are vegetation , soil , or hydrology	significantly	disturbed?	Are "nor	mal circumstances" present	1? Y
Are vegetation , soil , or hydrology	naturally pro	oblematic?	(If neede	ed, explain any answers in r	emarks.)
SUMMARY OF FINDINGS - Attach site map	showing	sampling	point loca	tions, transect, impor	tant features, etc.
Hydrophytic vegetation present? N		Is the sa	ampled area	a within a wetland?	N
Hydric soil present? N					
Indicators of wetland hydrology present?	_				
Remarks: (Explain alternative procedures here or in a	separate re	eport.)			
Transect point taken on hillside in pasture.	r ooparato ro	,501)			
·					
VEGETATION - Use scientific names of pla	nts.				
	Absolute	Dominant	Indicator	Dominance Test Worksh	neet
Tree Stratum (Plot size: 30 ft )	% Cover	Species	Staus	Number of Dominant Speci	es
1				that are OBL, FACW, or FA	.C: 0 (A)
2				Total Number of Domina	
3				Species Across all Stra	ta: 1 (B)
4				Percent of Dominant Speci	
5	0	= Total Cover		that are OBL, FACW, or FA	.C: 0.00% (A/B)
Sapling/Shrub stratum (Plot size: 15 ft	, —	- Total Cover		Prevalence Index Works	heet
1	,			Total % Cover of:	
2				OBL species 0 x	1 = 0
3				FACW species 0 x	2 = 0
4					3 = 0
5				·	4 = 380
(D) 4 :- 5 0	·	= Total Cover		' <u></u>	(5 = <u>25</u>
Herb stratum (Plot size: 5 ft 1 Pascopyrum smithii	) 95	Υ	FACU	Column totals 100 (A Prevalence Index = B/A =	A) <u>405</u> (B) 4.05
2 Artemisia ludoviciana	5		UPL	Trevalence index = b/A =	4.03
3				Hydrophytic Vegetation	Indicators:
4				Rapid test for hydroph	
5				Dominance test is >5	0%
6				Prevalence index is ≤	3.0*
7				Morphogical adaptation	
8				supporting data in Re	marks or on a
9				separate sheet)	
10	100	= Total Cover		Problematic hydrophy (explain)	rtic vegetation*
Woody vine stratum (Plot size: 30 ft	)	- Total Cover		<del></del> , , , ,	
1	,			*Indicators of hydric soil and w present, unless disturb	, ,,
2				Hydrophytic	
	0	= Total Cover		vegetation	
% Bare Ground in Herb Statum 0				present? N	
Remarks: (Include photo numbers here or on a separ	ate sheet)				
Upland vegetation dominates.					

SOIL Sampling Point: 11u-2

Matrix	<b>Profile Description</b>	: (Desc	ribe to t	he dept	h neede	d to do	cument	the indi	cator c	or confirm the a	bsence of indicators.)		
12-20		Matrix					Mottles						
12-20	Depth (Inches)	Color	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks		
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. "Location: PL = Pore Lining, M = Matrix Hydric Soil Indicators:  Hydric Soil Indicators:    Hydric Soil Indicators:			, ,	<del>                                     </del>		,		7.					
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. "Location: PL = Pore Lining, M = Matrix Hydric Soil Indicators:  Hydric Soil Indicators:    Hydric Soil Indicators:	12-20		4/4	<del>                                     </del>						Clay Loam			
Hydric Soil Indicators: Histisol (A1) Histic Epipedon (A2) Black Histic (A3) Black H										-			
Hydric Soil Indicators: Histisol (A1) Histic Epipedon (A2) Black Histic (A3) Black H													
Hydric Soil Indicators: Histisol (A1) Histic Epipedon (A2) Black Histic (A3) Black H													
Hydric Soil Indicators: Histisol (A1) Histic Epipedon (A2) Black Histic (A3) Black H													
Hydric Soil Indicators: Histisol (A1) Histic Epipedon (A2) Black Histic (A3) Black H													
Hydric Soil Indicators: Histisol (A1) Histic Epipedon (A2) Black Histic (A3) Black H							<u> </u>						
Hististo   CA1	• •		- Deplet	ion, RM	= Reduc	ed Matr	ix, MS =	Masked					
Black Histic (A2)	_ · _ · · · · · · _ ·												
Black Histic (A3)						(S4)	Ţ						
Hydrogen Sulfide (A4)									Ļ				
Stratified Layers (A5) (LRR F)					√ (E1)	}							
Depleted Bartix (F3)		` '	5 E/						L		Tessions (F 10) (LKK III, outside WILKA		
Depleted Below Dark Surface (A11)									Γ		(F18)		
Sandy Mucky Mineral (S1)  2.5 cm Mucky Peat or Peat (S2) (LRR G,H) 5 cm Mucky Peat or Peat (S3) (LRR G,H) 6 cm Mucky Peat or Peat (S3) (LRR G,H) 5 cm Mucky Peat or Peat (S3) (LRR G,H) 6 cm Mucky Peat or Peat (S3) (LRR G,H) 7 check here if indicators are not present:  Check here if indicators are not present:  Check here if indicators are not present:  Type:  Depth (inches):  Hydric soil present?  N  Remarks:  Hydric soils are absent.  HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Hydrogen Sulfide Odor (C1) Dy Season Water Table (C2) Dorift Deposits (B1) Dy Season Water Table (C2) Dorift Deposits (B3) Roots (not tilled) (C3) Roots (not tilled) (C3) Roots (not tilled) (C3) Roots (Reduced Iron (C4) Roots (Reduced Iro				1)			` ,			ed Parent Mate	erial (TF2)		
□ 2.5 cm Mucky Peat or Peat (S2) (LRR G,H)		, ,						` '					
Check here if indicators are not present:  Check here if indicators are not present:  Type: Depth (inches): Hydric soil present? N  Remarks: Hydric soil present? Hydric soil present?  Wetland Hydrology Indicators: Hydric soils are absent.  HYDROLOGY  Wetland Hydrology Indicators: Hydric water (A1) High Water Table (A2) Saturation (A3) Hydrogen Sulface Water (A1) Saturation (A3) Hydrogen Sulface Odor (C1) Driange Patterns (B10) Sediment Deposits (B2) Drift Deposits (B3) Roots (not tilled) (C3) Ration Deposits (B5) Into Deposits (B5) Into Deposits (B5) Water-Stained Leaves (B9)  Check here if indicators are not present:  Remarks:  Check here if indicators are not present:  Check here if indicators are not				II			,	` '	., L	ther (explain in	remarks)		
Check here if indicators are not present:    Type:										ndicators of hydrophyt	tic vegetation and weltand hydrology must be		
Restrictive Layer (if observed):	D Cili Midoky i Sa	l Ui i Ca.	. , .	•									
Type:	Beeteleting Laver /	m		eck her	e if indi	cators a	re not p	resent:	<u> </u>				
Remarks: Hydric soils are absent.  HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Hydrogen Sulfide Odor (C1)  Water Marks (B1)  Dry Season Water Table (C2)  Sediment Deposits (B2)  Oxidized Rhizospheres on Living  Aquatic Fauna (B13)  Dry Season Water Table (C2)  Sediment Deposits (B2)  Oxidized Rhizospheres on Living  Roots (not tilled) (C3)  Algal Mat or Crust (B4)  Presence of Reduced Iron (C4)  Iron Deposits (B5)  Thin Muck Surface (C7)  Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Check here if indicators are not present:  Field Observations:  Surface water present?  Yes  No  Depth (inches):  Water table present?  Yes  No  Depth (inches):  Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:		t observ	red):	D	0 /hh								
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Oxidized Rhizospheres on Living  Drift Deposits (B3)  Roots (not tilled) (C3)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Check here if indicators are not present:  Field Observations:  Surface water present?  Yes  No  Depth (inches):  Water Albe (A2)  Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Sprasely Vegetated Concave Surface (B8)  Drainage Patterns (B10)  Oxidized Rhizospheres on Living  (tilled) (C3)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  FAC-Neutral Test (D5)  Frost-Heaved Hummocks (LRR F)  Field Observations:  Surface water present?  Yes  No  Depth (inches):  Mater table present?  Yes  No  Depth (inches):  Drift Deposits (B2)  Drift Deposits (B2)  Drift Deposits (B3)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  FAC-Neutral Test (D5)  Frost-Heaved Hummocks (LRR F)  Indicators of wetland hydrology present?  N  Indicators of wetland hydrology present?  N  Depth (inches):  Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:				ner	oth (incri	es):			Н	ydric soli prese	nt? N		
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Indicator (B4)  Indicators (minimum of two required)  Surface Soil Cracks (B6)  Sparsely Vegetated Concave Surface (B8)  Drainage Patterns (B10)  Oxidized Rhizospheres on Living  Roots (not tilled) (C3)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Check here if indicators are not present:  Field Observations:  Surface water present? Yes No Depth (inches):  Water table present? Yes No Depth (inches):  Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:													
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Oxidized Rhizospheres on Living  Algual Mat or Crust (B4)  Presence of Reduced Iron (C4)  Inon Deposits (B5)  Water-Stained Leaves (B9)  Check here if indicators are not present:  Water table present? Yes No Depth (inches):  Water table present? Yes No Depth (inches):  Water Jable (A2)  Dsurface Soil Cracks (B6)  Surface Mater Soil Oxidized Rhizospheres on Living Roots (tilled) (C3)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  FAC-Neutral Test (D5)  Frost-Heaved Hummocks (LRR F)  Field Observations:  Surface water present? Yes No Depth (inches):  Water table present? Yes No Depth (inches):  No Depth (inches):  Indicators of wetland hydrology present? N  Indicators of wetland hydrology present? N  Indicators of wetland hydrology present? N	Hydric soils are abs	ent.											
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Oxidized Rhizospheres on Living  Algual Mat or Crust (B4)  Presence of Reduced Iron (C4)  Inon Deposits (B5)  Water-Stained Leaves (B9)  Check here if indicators are not present:  Water table present? Yes No Depth (inches):  Water table present? Yes No Depth (inches):  Water Jable (X2)  Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Surface Soil Cracks (B8)  Citile (C2)  Suturation Visible on Aerial Imagery (C9)  Saturation Visible on Aerial Imagery (C9)  Saturation Visible on Aerial Imagery (C9)  Sediment Deposits (B1)  Oxidized Rhizospheros on Living (tilled) (C3)  Suturation Visi													
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Oxidized Rhizospheres on Living  Algual Mat or Crust (B4)  Presence of Reduced Iron (C4)  Inon Deposits (B5)  Water-Stained Leaves (B9)  Check here if indicators are not present:  Water table present? Yes No Depth (inches):  Water table present? Yes No Depth (inches):  Water Jable (X2)  Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Surface Soil Cracks (B8)  Citile (C2)  Suturation Visible on Aerial Imagery (C9)  Saturation Visible on Aerial Imagery (C9)  Saturation Visible on Aerial Imagery (C9)  Sediment Deposits (B1)  Oxidized Rhizospheros on Living (tilled) (C3)  Suturation Visi	HYDROLOGY												
Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Aquatic Fauna (B13)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Mater-Stained Leaves (B9)  Check here if indicators are not present:  Field Observations:  Surface (Mater (A1)  Surface Soil Cracks (B6)  Sparsely Vegetated Concave Surface (B8)  Sparsely Vegetated Concave Surface (B8)  Drainage Patterns (B10)  Oxidized Rhizospheres on Living Roots  (tilled) (C3)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Inundation Visible on Aerial Imagery (B7)  Check here if indicators are not present:  Field Observations:  Surface water present? Yes No Depth (inches):  Water table present? Yes No Depth (inches):  Water table present? Yes No Depth (inches):  Water table present? Yes No Depth (inches):  Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:		Indicat	ors:										
Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6) High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Oxidized Rhizospheres on Living Sediment Deposits (B2) Oxidized Rhizospheres on Living Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)  Check here if indicators are not present:  Field Observations: Surface Water (A1) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living (tilled) (C3) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Saturation Visible on Aerial Imagery (C9) FAC-Neutral Test (D5) Frost-Heaved Hummocks (LRR F)  Check here if indicators are not present:  Field Observations: Surface water present? Yes No Depth (inches): Water table present? Yes No Depth (inches): Indicators of wetland hydrology present? N  Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:				is req <u>uir</u>	ed; c <u>hec</u>	k all tha	t app <u>ly)</u>			Secondary Ind	icators (minimum of two required)		
High Water Table (A2) Saturation (A3) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Innudation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)  Check here if indicators are not present:  Field Observations: Surface water present? Water table present? Water table present? Yes No Depth (inches): Water table prevails (Stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:  Aquatic Fauna (B13) Sparsely Vegetated Concave Surface (B8) Sparsely Vegetated Concave Surface (C8) Drainage Patterns (B10) Drainage Patte													
Saturation (A3)	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	,				4	, ,				` '		
Sediment Deposits (B2)	Saturation (A3)					Hydroge	en Sulfide	e Odor (C	21)	Drainag	e Patterns (B10)		
Drift Deposits (B3)  Roots (not tilled) (C3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Check here if indicators are not present:  Water table present?  Water table present?  Yes  No  Depth (inches):  Water table present?  Yes  No  Depth (inches):  Saturation Visible on Aerial Imagery (B7)  FAC-Neutral Test (D5)  Frost-Heaved Hummocks (LRR F)  Indicators of wetland  hydrology present?  N  (includes capillary fringe)  Remarks:	Water Marks (B1	)				⊒ 1			` '				
Algal Mat or Crust (B4)	· —	. ,				_		•	n Living		•		
Iron Deposits (B5)					_								
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5)  Water-Stained Leaves (B9) Frost-Heaved Hummocks (LRR F)  Check here if indicators are not present:  Field Observations:  Surface water present? Yes No Depth (inches):  Water table present? Yes No Depth (inches):  Saturation present? Yes No Depth (inches):  (includes capillary fringe)  Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:									n (C4)				
Water-Stained Leaves (B9)  Check here if indicators are not present:  Field Observations: Surface water present? Yes No Depth (inches): Water table present? Yes No Depth (inches): Sutration present? Yes No Depth (inches): Saturation present? Yes No Depth (inches): Set No Depth (inches): Surface water present? Yes No Depth (inches): Set No Depth (inches): Surface water present? Yes No Depth (inches): Set No Depth (inches): Set No Set					┕	=		. ,					
Check here if indicators are not present:  Field Observations:  Surface water present? Yes No Depth (inches):  Water table present? Yes No Depth (inches):  Saturation present? Yes No Depth (inches):  (includes capillary fringe)  Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:	I 🛏		•	ry (B7)	L	Other (E	∃xplain in	n Remark	s)				
Field Observations:  Surface water present? Yes No Depth (inches):  Water table present? Yes No Depth (inches):  Saturation present? Yes No Depth (inches):  (includes capillary fringe)  Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:	Water-Stained Le	eaves (B	,							Frost-He	eaved Hummocks (LRR F)		
Surface water present? Yes No Depth (inches):  Water table present? Yes No Depth (inches):  Saturation present? Yes No Depth (inches):  (includes capillary fringe)  Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:			Ch	eck here	if indic	ators a	re not p	resent:	<b>√</b>				
Water table present? Yes No Depth (inches): Indicators of wetland Saturation present? Yes No Depth (inches): hydrology present? No Depth (includes capillary fringe)  Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:			V		Na		D-nth /	"!- a.a.\.					
Saturation present? Yes No Depth (inches): hydrology present? N (includes capillary fringe)  Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:				$\sqsubseteq$						Inc	licators of watland		
(includes capillary fringe)  Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:		?		$\vdash$									
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:		inge)	163		INO	<u></u>	Debui (	IIIciicə <sub>j</sub> .		'''	diology present:		
Remarks:			ardad di	oto (etro		monit	-sring w	an coriol	abatac	araviaus inspe	stians) if available:		
	Dear	chibe rec	Diaea aa	ata (Sue	am gaug	e, mom	Offing we	ell, aeriai	βποιοε	s, previous irispe	ctions), ii avaiiabie.		
											<u> </u>		
Wetland hydrology indicators absent.	Remarks:												
	Wetland hydrology i	ndicators	absent										

Project/Site Falkirk Ethanol Plant Lateral (Blue Fl	int Line) City/0	County:	McLean	Sampling Date:	5/6/21
Applicant/Owner: WBI Energy Transmission, In	nc.	State:	ND	Sampling Point:	11u-3
Investigator(s): LT/AG		Section	on, Township	o, Range: S22, T	145N, R82W
Landform (hillslope, terrace, etc.):	toeslope	Local re	elief (concav	e, convex, none):	convex
Slope (%): 3 Lat: 47.37	0397	Long:	-101.1005	29 Datum:	WGS 84
Soil Map Unit Name Harriet-Regan-Stirum co	omplex, 0 to 2 per	rcent slopes	NWI C	Classification:	-
Subregion (MLRA or LRR): F	Are climatic/hy	drologic cond	ditions of the	site typical for this time of t	he year? Y
Are vegetation , soil , or hydrology	significantly	disturbed?	Are "nor	mal circumstances" present	? Y
Are vegetation , soil , or hydrology	naturally pro	oblematic?	(If neede	ed, explain any answers in r	emarks.)
SUMMARY OF FINDINGS - Attach site			point loca	tions, transect, impor	tant features, etc.
Hydrophytic vegetation present?	N		-	<u> </u>	N
Hydric soil present?	N			_	<del></del>
Indicators of wetland hydrology present?	N				
Remarks: (Explain alternative procedures here or	r in a senarate re	port )			
Tremarks. (Explain alternative procedures here of	iii a separate re	port.)			
VEGETATION - Use scientific names of	nlants				
	Absolute	Dominant	Indicator	Dominance Test Worksl	neet
Tree Stratum (Plot size: 30 ft	) % Cover	Species	Staus	Number of Dominant Speci	
1	•			that are OBL, FACW, or FA	
2				Total Number of Domina	ant
3				Species Across all Stra	ta:(B)
4				Percent of Dominant Speci	
5		<del></del> .		that are OBL, FACW, or FA	C: 0.00% (A/B)
Sapling/Shrub stratum (Plot size: 15 ft	0 :	= Total Cover		Prevalence Index Works	choot
1 1				Total % Cover of:	oneet
2					1 = 0
3				· —	2 = 0
4				FAC species 0 x	3 = 0
5					4 = 0
	0 :	= Total Cover		· —	5 = 500
Herb stratum (Plot size: 5 ft	)	.,	LIDI		A) <u>500</u> (B)
1 Bromus inermis	100	<u> </u>	UPL	Prevalence Index = B/A =	5.00
2 3				Hydrophytic Vegetation	Indicators:
4				Rapid test for hydropl	
5				Dominance test is >5	
6				Prevalence index is ≤	3.0*
7				Morphogical adaptation	ons* (provide
8				supporting data in Re	
9				separate sheet)	
10				Problematic hydrophy	tic vegetation*
Woody vine stratum (Plot size: 30 ft	100	= Total Cover		(explain)	
Woody vine stratum (Plot size: 30 ft	/			*Indicators of hydric soil and v present, unless disturb	, ,,
2				Hydrophytic	sea or problemane
	0 :	Total Cover		vegetation	
% Bare Ground in Herb Statum 0				present? N	
Remarks: (Include photo numbers here or on a se	eparate sheet)				
Upland vegetation dominates.					

SOIL Sampling Point: 11u-3

<b>Profile Description</b>	(Desci	ribe to t	he dept	h neede	d to do	cument	the indi	cator o	or confirm the a	bsence of indicators.)
		Matrix				Mottles				
Depth (Inches)	Color (	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks
0-30	10YR	2/1	,,,	00.01	(1110101)	,,,	1,700	200	Clay Loam	rtemante
30-35	10YR	4/3							Clay Loam	
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = M										cation: PL = Pore Lining, M = Matri
Hydric Soil Indicators:  Indicators for Problematic Hydric Soils:										_
Histisol (A1)				□Sar	dy Gleye	ed Matrix	(S4)	Г	cm Muck (A9)	-
Histic Epipedon (	A2)				dy Redo		,			dox (A16) (LRR K, L, R)
Black Histic (A3)				Stri	pped Ma	trix (S6)			ark Surface (S7	7) (LRR K, L)
Hydrogen Sulfide	` '			_	my Muck	•	` '		igh Plains Depr	ressions (F16) (LRR H, outside MLRA
Stratified Layers					my Gley			_	72,73)	(540)
1 cm Muck (A9) (			11		leted Ma	, ,		-	educed Vertic ed Parent Mate	` ,
Depleted Below I Thick Dark Surfa		ace (A I	1)		lox Dark leted Da		` '	F		rk Surface (TF12)
Sandy Mucky Mir	,	)			lox Depre		` '	Ļ	ther (explain in	` ,
2.5 cm Mucky Pe			RR G.H)			,	ons (F16	i)	urior (explain iii	Terriance)
5 cm Mucky Peat					RA 72, 73					ic vegetation and weltand hydrology must be
		Ch	eck her	e if indi	cators a	re not n	resent:	<b>/</b>	present, u	ınless disturbed or problematic
Restrictive Layer (i	fobserv							<u> </u>		
Type:		,-	Der	oth (inch	es):			H	ydric soil prese	nt? N
Remarks:				(					,	··· <u></u>
Hydric soils absent.										
HYDROLOGY										
Wetland Hydrology	Indicat	ors:								
Primary Indicators (r	ninimum	of one	s require	ed; chec	k all that	apply)			Secondary Ind	icators (minimum of two required)
Surface Water (A			-			st (B11)				Soil Cracks (B6)
High Water Table	,				L	Fauna (E	313)			ly Vegetated Concave Surface (B8)
Saturation (A3)	,					•	e Odor (C	21)		e Patterns (B10)
Water Marks (B1	)						er Table	,	= -	d Rhizospheres on Living Roots
Sediment Deposi	ts (B2)				Oxidized	d Rhizosı	pheres or	n Living	(tilled) (0	C3)
Drift Deposits (B3	3)				Roots (r	not tilled)	(C3)		Crayfish	Burrows (C8)
Algal Mat or Crus					Presenc	e of Red	luced Iron	n (C4)		on Visible on Aerial Imagery (C9)
Iron Deposits (B5						ck Surfa				phic Position (D2)
Inundation Visible		Ŭ	ry (B7)		Other (E	xplain in	Remark	s)		utral Test (D5)
Water-Stained Le	eaves (B9	9)							Frost-He	eaved Hummocks (LRR F)
		Che	eck here	if indic	ators a	e not p	resent:	✓		
Field Observations										
Surface water prese		Yes	Ц	No	$\square$		inches):			
Water table present	?	Yes	Ц	No	$\square$		inches):			licators of wetland
Saturation present?		Yes		No	$\checkmark$	Depth (	inches):		hy	rdrology present? N
(includes capillary fr										
Desc	ribe rec	orded da	ata (strea	am gaug	e, monit	oring we	II, aerial	photos	s, previous inspe	ctions), if available:
Remarks:										
Wetland hydrology i	ndicators	s absent	-							

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line) City	y/County:	McLean	Sampling Date: 5/6/21
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND	Sampling Point: 11w-1
Investigator(s): LT/AG	Section	on, Township	o, Range: S23, T145N, R82W
Landform (hillslope, terrace, etc.): depression	Local re	elief (concav	re, convex, none): concave
Slope (%): 1 Lat: 47.370462	Long:	-101.0979	06 Datum: WGS 84
Soil Map Unit Name Williams-Bowbells loams, 3 to 6 per	cent slopes	NWI C	Classification: -
Subregion (MLRA or LRR): F Are climatic/	hydrologic cond	ditions of the	site typical for this time of the year?
Are vegetation , soil , or hydrology significant	ly disturbed?	Are "nor	mal circumstances" present? Y
Are vegetation , soil , or hydrology naturally p	problematic?	(If neede	ed, explain any answers in remarks.)
SUMMARY OF FINDINGS - Attach site map showin	g sampling	point loca	tions, transect, important features, etc.
Hydrophytic vegetation present?	Is the sa	ampled area	a within a wetland? Y
Hydric soil present?			
Indicators of wetland hydrology present?			
Remarks: (Explain alternative procedures here or in a separate	report.)		
Transect point taken in saline wetland.	. ,		
VEGETATION - Use scientific names of plants.			
Absolute	e Dominant	Indicator	Dominance Test Worksheet
<u>Tree Stratum</u> (Plot size: <u>30 ft</u> ) % Cove	r Species	Staus	Number of Dominant Species
1			that are OBL, FACW, or FAC:(A)
			Total Number of Dominant Species Across all Strata: 1 (B)
			, , ,
5			Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)
	= Total Cover		
Sapling/Shrub stratum (Plot size: 15 ft )			Prevalence Index Worksheet
1			Total % Cover of:
2			OBL species 0 x 1 = 0
3			FACW species 40 x 2 = 80 FAC species 0 x 3 = 0
5			FAC species $0 \times 3 = 0$ FACU species $0 \times 4 = 0$
	= Total Cover		UPL species 0 x 5 = 0
Herb stratum (Plot size: 5 ft )			Column totals 40 (A) 80 (B)
1 Distichlis spicata 40	Y	FACW	Prevalence Index = $B/A = 2.00$
2			
3			Hydrophytic Vegetation Indicators:
5			Rapid test for hydrophytic vegetation  X Dominance test is >50%
6			X Prevalence index is ≤3.0*
7			Morphogical adaptations* (provide
8			supporting data in Remarks or on a
9			separate sheet)
10			Problematic hydrophytic vegetation*
40	= Total Cover	•	(explain)
Woody vine stratum (Plot size: 30 ft )			*Indicators of hydric soil and wetland hydrology must be
1 2			present, unless disturbed or problematic  Hydrophytic
	= Total Cover		vegetation
% Bare Ground in Herb Statum60	. 3.0 00101		present? Y
Remarks: (Include photo numbers here or on a separate sheet)			
Hydrophytic vegetation dominates.			

SOIL Sampling Point: 11w-1

<b>Profile Description</b>	: (Desc	ribe to t	he dept	h neede	d to do	cument	the indi	cator o	r confirm the a	bsence of indicators.)
		Matrix				Mottles				
Depth (Inches)	Color	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks
0-12	10YR	2/1	95	7.5YR	4/4	5	C	М	SiCL	. tomainte
-					-					
Type: C = Concentra	tion, D =	- Depleti	on, RM	= Reduc	ed Matri	x, MS =	Masked	Sand (	Grains. **Lo	cation: PL = Pore Lining, M = Matri
Hydric Soil Indi						-				roblematic Hydric Soils:
Histisol (A1)				San	dy Gleye	ed Matrix	(S4)	Γ	cm Muck (A9)	_
Histic Epipedon (	A2)			San	dy Redo	x (S5)	, ,	Ī		dox (A16) (LRR K, L, R)
Black Histic (A3)					oped Ma	. ,			ark Surface (S7	
Hydrogen Sulfide	. ,					y Minera		L		essions (F16) (LRR H, outside MLRA
Stratified Layers						ed Matrix	(F2)	Г	72,73)	(540)
1 cm Muck (A9) ( Depleted Below I			1)		leted Ma	Surface	(E6)	-	educed Vertic ed Parent Mate	` '
Thick Dark Surfa		ace (AT	)			rk Surface	` '			rk Surface (TF12)
Sandy Mucky Mir	,	)				essions (	` '	-	ther (explain in	` '
2.5 cm Mucky Pe			RR G,H)			,	ons (F16	5)		,
5 cm Mucky Peat	or Peat	(S3) (LRI	R F)	(MLI	RA 72, 73	of LRR H	) `	′ *Ir		ic vegetation and weltand hydrology must be
		Ch	eck her	e if indi	cators a	re not p	resent:		present, t	Inless disturbed or problematic
Restrictive Layer (i	f observ					•				
Type:		,	Dep	th (inch	es):			Н	ydric soil prese	nt? Y
Remarks:				`					<u> </u>	
Hydric soils present.										
Hydric soils present.		ors:								
Hydric soils present.  HYDROLOGY	Indicat		s require	ed; chec	k all that	apply)			Secondary Ind	icators (minimum of two required)
Hydric soils present.  HYDROLOGY  Wetland Hydrology	Indicat		s require		k all that Salt Cru					icators (minimum of two required) Soil Cracks (B6)
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r	Indicat		s require	<b>√</b>	Salt Cru		313)		Surface	
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r  Surface Water (A	Indicat		s require	\ _	Salt Cru Aquatic	st (B11) Fauna (E	313) e Odor (C	:1)	Surface Sparse	Soil Cracks (B6)
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r  Surface Water (A  High Water Table	Indicat minimum 1) e (A2)		s require	√ 	Salt Cru Aquatic Hydroge	st (B11) Fauna (E en Sulfide	,		Surface Sparse Drainage	Soil Cracks (B6) ly Vegetated Concave Surface (B8)
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r Surface Water (A High Water Table Saturation (A3)	Indicat minimum 11) e (A2)		s require	\ 	Salt Cru Aquatic Hydroge Dry Sea	st (B11) Fauna (E en Sulfide son Wat	e Odor (C	(C2)	Surface Sparse Drainage Oxidized	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3)
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3)	Indicateminimum (1) (A2) (A2) (ts (B2)		s require	\ 	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r	st (B11) Fauna (Een Sulfide son Wat d Rhizosi not tilled)	e Odor (C er Table oheres or (C3)	(C2) n Living	Surface Sparse Drainage Oxidized (tilled) ((	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8)
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus	r Indicat minimum (1) e (A2) ) ts (B2) B) et (B4)		s require	\ 	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presence	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) ee of Red	e Odor (Cer Table oheres or (C3)	(C2) n Living	Surface Sparse Drainage Oxidizec (tilled) (( Crayfish	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9)
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus	r Indicateminimum (1) (e (A2) ) ts (B2) (b) (c) (c) (d)	of one i	·	\ 	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend	st (B11) Fauna (Een Sulfiderson Wated Rhizosport tilled) ee of Red	e Odor (Cer Table oheres of (C3) luced Iron (C7)	(C2) n Living n (C4)	Surface Sparse Drainage Oxidized (tilled) (Cayfish Saturation Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible	r Indicateminimum (1) (e (A2) ) ts (B2) (b) st (B4) (c) e on Aeric	of one i	·	\ 	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend	st (B11) Fauna (Een Sulfiderson Wated Rhizosport tilled) ee of Red	e Odor (Cer Table oheres or (C3)	(C2) n Living n (C4)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatid Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus	r Indicateminimum (1) (e (A2) ) ts (B2) (b) st (B4) (c) e on Aerie	of one i	·	\ 	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend	st (B11) Fauna (Een Sulfiderson Wated Rhizosport tilled) ee of Red	e Odor (Cer Table oheres of (C3) luced Iron (C7)	(C2) n Living n (C4)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatid Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)
Hydric soils present.  HYDROLOGY  Wetland Hydrology  Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crust Iron Deposits (B5 Inundation Visible Water-Stained Le	r Indicat minimum (1) e (A2) ) ts (B2) 3) st (B4) 5) e on Aeric	of one i	·		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (Een Sulfiderson Wated Rhizosport tilled) tee of Redeck Surfact	e Odor (C er Table oheres of (C3) luced Iron ce (C7) Remark	(C2) n Living n (C4)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatid Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)
Hydric soils present.  HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crust Iron Deposits (B5 Inundation Visible Water-Stained Le	Indicateminimum (1) (A2) (A2) (B3) (B4) (B4) (B4) (B4) (B4) (B5) (B4) (B5) (B5) (B5) (B5) (B5) (B5) (B5) (B5	al Image	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat I Rhizos not tilled) se of Red ck Surfa explain in	e Odor (Cer Table otheres or (C3) luced Iron (C7) Remark	(C2) n Living n (C4)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatid Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)
Hydric soils present.  HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese	Indicateminimum (1) (A2) (A2) (B2) (B3) (C) (C) (C) (C) (C) (C) (C) (C) (C) (C	al Image  Che	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizosp not tilled) se of Red ck Surfa explain in  Depth (	e Odor (Cer Table otheres of (C3) lluced Iron (C7) Remark	(C2) n Living n (C4)	Surface Sparse Drainage Oxidizec (tilled) (Cayfish Saturation Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)
Hydric soils present.  HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present	Indicateminimum (1) (A2) (A2) (B2) (B3) (C) (C) (C) (C) (C) (C) (C) (C) (C) (C	al Image  Che  Yes  Yes	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in  Depth ( Depth (	e Odor (Cer Table otheres or (C3) (C7) Remark resent:	(C2) n Living n (C4)	Surface Sparse Drainage Oxidizec (tilled) (Cayfish Saturation Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)
Hydric soils present.  HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present?	Indicateminimum (1) (A2) (A2) (B2) (B3) (B4) (B4) (B4) (B5) (B4) (B5) (B6) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7	al Image  Che	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in  Depth ( Depth (	e Odor (Cer Table otheres of (C3) lluced Iron (C7) Remark	(C2) n Living n (C4)	Surface Sparse Drainage Oxidizec (tilled) (Cayfish Saturation Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)
Hydric soils present.  HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Orift Deposits (B3 Algal Mat or Crus Iron Deposits (B3 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fri	r Indicat minimum (1) e (A2) ) ts (B2) 3) et (B4) 6) e on Aerie eaves (B9 : :nt? ?	al Image  O  Che  Yes  Yes  Yes  Yes	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in  Te not pi  Depth ( Depth (	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)
Hydric soils present.  HYDROLOGY  Wetland Hydrology Primary Indicators (r. Surface Water (A. High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit (B3 Algal Mat or Cruster Iron Deposits (B5 Inundation Visible Water-Stained Letter Field Observations Surface water prese Water table present' Saturation present? (includes capillary fri	r Indicat minimum (1) e (A2) ) ts (B2) 3) et (B4) 6) e on Aerie eaves (B9 : :nt? ?	al Image  O  Che  Yes  Yes  Yes  Yes	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in  Te not pi  Depth ( Depth (	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)
Hydric soils present.  HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Orift Deposits (B3 Algal Mat or Crus Iron Deposits (B3 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fri	r Indicat minimum (1) e (A2) ) ts (B2) 3) et (B4) 6) e on Aerie eaves (B9 : :nt? ?	al Image  O  Che  Yes  Yes  Yes  Yes	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in  Te not pi  Depth ( Depth (	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)
Hydric soils present.  HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Orift Deposits (B3 Algal Mat or Crus Iron Deposits (B3 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fri	r Indicat minimum (1) e (A2) ) ts (B2) 3) et (B4) 6) e on Aeric eaves (B9 : int? ?	al Image  Ohe  Yes  Yes  Yes  Yes  Orded da	ry (B7)  eck here	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in  Te not pi  Depth ( Depth (	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line) City/	County:	McLean	Sampling Date: 5/6/21
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND	Sampling Point: 11w-2
Investigator(s): LT/AG	Section	on, Township	p, Range: S23, T145N, R82W
Landform (hillslope, terrace, etc.): depression	Local re	elief (concav	ve, convex, none): concave
Slope (%): 1 Lat: 47.369729	Long:	-101.099	9 Datum: WGS 84
Soil Map Unit Name Harriet-Regan-Stirum complex, 0 to 2 pe		NWI	Classification: -
	-	 ditions of the	site typical for this time of the year?
Are vegetation , soil , or hydrology significantly			mal circumstances" present?
Are vegetation , soil , or hydrology naturally pr			ed, explain any answers in remarks.)
SUMMARY OF FINDINGS - Attach site map showing		•	
Hydrophytic vegetation present?		_	a within a wetland?
Hydric soil present?		•	<del></del>
Indicators of wetland hydrology present?			
Remarks: (Explain alternative procedures here or in a separate re	enort )		
Transect point taken in low saline wetland.	5port.)		
The second point sales in the second			
VEGETATION - Use scientific names of plants.			
Absolute	Dominant	Indicator	Dominance Test Worksheet
Tree Stratum (Plot size: 30 ft ) % Cover	Species	Staus	Number of Dominant Species
1	·		that are OBL, FACW, or FAC: 1 (A)
2			Total Number of Dominant
3			Species Across all Strata: 1 (B)
4			Percent of Dominant Species
5	<del></del> .		that are OBL, FACW, or FAC: 100.00% (A/B)
Capling/Shrub stratum (Diet size: 15 ft	= Total Cover		Prevalence Index Worksheet
Sapling/Shrub stratum (Plot size: 15 ft )			Total % Cover of:
	· —— ·		OBL species 0 x 1 = 0
3	· <del></del> -		FACW species 40 x 2 = 80
4			FAC species 0 x 3 = 0
5			FACU species 0 x 4 = 0
0	= Total Cover		UPL species 0 x 5 = 0
Herb stratum (Plot size: 5 ft )			Column totals 40 (A) 80 (B)
1 Distichlis spicata 40	<u> </u>	FACW	Prevalence Index = B/A = 2.00
2	. ——		Hydrophysic Vocatetion Indicators
3	. ——		Hydrophytic Vegetation Indicators:  Rapid test for hydrophytic vegetation
5	· —— ·		X Dominance test is >50%
6	· —— ·		X Prevalence index is ≤3.0*
7	· <del></del> -		Morphogical adaptations* (provide
8			supporting data in Remarks or on a
9			separate sheet)
10	. <u> </u>		Problematic hydrophytic vegetation*
40	= Total Cover		(explain)
Woody vine stratum (Plot size: 30 ft )			*Indicators of hydric soil and wetland hydrology must be
2			present, unless disturbed or problematic  Hydrophytic
	= Total Cover		vegetation
% Bare Ground in Herb Statum 60	33.31		present? Y
Remarks: (Include photo numbers here or on a separate sheet)			
Hydrophytic vegetation dominates.			

SOIL Sampling Point: 11w-2

Profile Description	: (Desci	ribe to t	he dept	h neede	d to do	cument	the indi	cator c	or confirm the a	bsence of indicators.)
-		Matrix				Mottles				,
Depth (Inches)	Color (	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks
0-12	10YR	2/1	95	7.5YR	. ,	5	C	M	SiCL	, terrialitie
					., .					
Type: C = Concentra	ation, D =	Depleti	on, RM	= Reduc	ed Matr	ix, MS =	Masked	Sand	Grains. **Lo	cation: PL = Pore Lining, M = Matri
Hydric Soil Ind			,			,				Problematic Hydric Soils:
Histisol (A1)				Sar	dy Gleye	ed Matrix	(S4)	Г	cm Muck (A9)	-
Histic Epipedon (	(A2)				dy Redo		( )	Ì		dox (A16) (LRR K, L, R)
Black Histic (A3)				Stri	pped Ma	trix (S6)		Ī	ark Surface (S7	
Hydrogen Sulfide						ky Minera				ressions (F16) (LRR H, outside MLRA
Stratified Layers						ed Matrix		_	72,73)	(540)
1 cm Muck (A9) ( Depleted Below I			`			atrix (F3) Surface		-	educed Vertic ed Parent Mate	
Thick Dark Surfa		ace (AT	)			irk Surface	. ,	-		rk Surface (TF12)
Sandy Mucky Min	, ,	)				essions (	` '	-	ther (explain in	
2.5 cm Mucky Pe			RR G,H)		•	,	ions (F16	5)		,
5 cm Mucky Pea	t or Peat	(S3) (LRI	RF)	(ML	RA 72, 73	of LRR H	l) `	*Ir		ic vegetation and weltand hydrology must be
		Ch	eck her	e if indi	cators a	re not r	resent:	П	present, t	ınless disturbed or problematic
Restrictive Layer (i	f observ									
Type:		•	Dei	oth (inch	es):			H	ydric soil prese	nt? Y
Remarks:										
Hydric soils present										
riyunc sons present	•									
HYDROLOGY										
Wetland Hydrology	Indicat	ors:								
Primary Indicators (r	minimum	of one i	s requir	ed; chec	k all tha	t apply)			Secondary Ind	icators (minimum of two required)
Surface Water (A	<b>\1</b> )			J	Salt Cru	ıst (B11)				Soil Cracks (B6)
High Water Table	e (A2)				Aquatic	Fauna (E	313)		☐ Sparse	ly Vegetated Concave Surface (B8)
Saturation (A3)					]Hydroge	en Sulfide	e Odor (C	21)	Drainag	e Patterns (B10)
Water Marks (B1	)				Dry Sea	ison Wat	er Table	(C2)		d Rhizospheres on Living Roots
Sediment Depos					-		pheres or	n Living		
Drift Deposits (B						not tilled)				Burrows (C8)
Algal Mat or Crus	. ,			L	-		luced Iron	n (C4)	=	on Visible on Aerial Imagery (C9)
Iron Deposits (B		al loca ere	n. (D7)	Ļ	=	ick Surfa		-1	=	phic Position (D2)
Inundation Visible		_	y (B7)		JOtner (E	explain in	Remark	s)		utral Test (D5)
Water-Stained Le	eaves (Bs	·						_	Frost-He	eaved Hummocks (LRR F)
Field Observations		Che	ck here	if indic	ators a	re not p	resent:	L		
Field Observations Surface water prese		Yes		No		Denth (	inches):			
Water table present		Yes	H	No			inches):		Ind	licators of wetland
Saturation present?	•	Yes	H	No	✓ ✓		inches):		-	drology present? Y
(includes capillary fr	inge)	. 55		. •0	<u> </u>					
		orded da	ıta (stre	am daud	e monit	oring we	ell aerial	nhotos	nrevious inspe	ctions), if available:
Desi		oraca ac	יים ויסווסי	airi gaag	, morni	.crinig we	,, acriai	Priotos	, provious mape	onono), ii avaliabio.
Remarks:										
Wetland hydrology i	ndicators	s presen	I.							

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line) City	/County:	McLean	Sampling Date: 5/6/21
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND	Sampling Point: 11w-3
Investigator(s): LT/AG	Section	on, Township	o, Range: S22, T145N, R82W
Landform (hillslope, terrace, etc.): depression	Local re	elief (concav	re, convex, none): concave
Slope (%): 1 Lat: 47.370396	Long:	-101.1003	65 Datum: WGS 84
Soil Map Unit Name Harriet-Regan-Stirum complex, 0 to 2 pe	ercent slopes	NWI (	Classification: -
Subregion (MLRA or LRR): F Are climatic/h	ydrologic cond	ditions of the	site typical for this time of the year?
Are vegetation , soil , or hydrology significantly	/ disturbed?	Are "nor	mal circumstances" present?
	oblematic?		ed, explain any answers in remarks.)
SUMMARY OF FINDINGS - Attach site map showing		point loca	tions, transect, important features, etc.
Hydrophytic vegetation present?			a within a wetland?
Hydric soil present?			
Indicators of wetland hydrology present?			
Remarks: (Explain alternative procedures here or in a separate re	enort )		
Tremarks. (Explain alternative procedures here of in a separate is	ороги.)		
VEGETATION - Use scientific names of plants.			
Absolute	Dominant	Indicator	Dominance Test Worksheet
<u>Tree Stratum</u> (Plot size: 30 ft ) % Cover	Species	Staus	Number of Dominant Species
1			that are OBL, FACW, or FAC: 1 (A)
2			Total Number of Dominant
3			Species Across all Strata: 2 (B)
			Percent of Dominant Species
5	<del></del>		that are OBL, FACW, or FAC: 50.00% (A/B)
Sapling/Shrub stratum (Plot size: 15 ft )	= Total Cover		Prevalence Index Worksheet
1			Total % Cover of:
2	· ——		OBL species 70 x 1 = 70
3			FACW species 0 x 2 = 0
4			FAC species 0 x 3 = 0
5			FACU species 20 x 4 = 80
0	= Total Cover		UPL species 0 x 5 = 0
Herb stratum (Plot size: 5 ft )		0.71	Column totals 90 (A) 150 (B)
1 Typha angustifolia 70	- <u>Y</u>	OBL	Prevalence Index = B/A = 1.67
2 Elymus repens 20	·	FACU	Hydrophytic Vegetation Indicators:
4	. ———		Rapid test for hydrophytic vegetation
5	· ——		Dominance test is >50%
6			X Prevalence index is ≤3.0*
7			Morphogical adaptations* (provide
8			supporting data in Remarks or on a
9			separate sheet)
10	- T-4-L O		Problematic hydrophytic vegetation*
Woody vine stratum (Plot size: 30 ft )	= Total Cover		(explain)
Woody vine stratum (Plot size: 30 ft )			*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2			Hydrophytic
	= Total Cover		vegetation
% Bare Ground in Herb Statum10			present? Y
Remarks: (Include photo numbers here or on a separate sheet)			
Hydrophytic vegetation dominates.			

SOIL Sampling Point: 11w-3

Profile Description	: (Desci	ribe to t	he dept	h neede	d to do	cument	the indi	cator c	or confirm the a	bsence of indicators.)
-		Matrix				Mottles				,
Depth (Inches)	Color (	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks
0-12	10YR	2/1	95	7.5YR	<u> </u>	5	C	M	SCL	rtomante
						<del>                                     </del>				
						<del>                                     </del>	1			
						<del>                                     </del>	1			
					<del>                                     </del>	<del>                                     </del>	+ -			
						<del>                                     </del>	1			
Type: C = Concentra	ation, D =	- Depleti	on, RM	= Reduc	ed Matr	ix, MS =	Masked	Sand	L Grains. **Lo	 cation: PL = Pore Lining, M = Matri
Hydric Soil Ind						-				Problematic Hydric Soils:
Histisol (A1)				Sar	ndy Gley	ed Matrix	(S4)	Γ	cm Muck (A9)	<u>-</u>
Histic Epipedon (	` '			Sar	ndy Redo	ox (S5)	•	Ĭ	oast Prairie Re	dox (A16) (LRR K, L, R)
Black Histic (A3)					pped Ma	. ,			ark Surface (S7	
Hydrogen Sulfide	. ,					ky Minera				ressions (F16) (LRR H, outside MLRA
Stratified Layers					, ,	ed Matrix	` '	Г	72,73)	/E40\
1 cm Muck (A9) ( Depleted Below I			()			atrix (F3) Surface		-	educed Vertic ed Parent Mate	
Thick Dark Surfa		acc (,	,			ark Surfa	` '	ļ		rk Surface (TF12)
Sandy Mucky Mi	,	)				essions (	` '	ļ	ther (explain in	,
2.5 cm Mucky Pe	eat or Pea	, at (S2) <b>(L</b>					ions (F16			,
5 cm Mucky Pea						of LRR H				tic vegetation and weltand hydrology must be unless disturbed or problematic
		Ch	eck her	e if indi	cators a	are not p	oresent:		ргозопа	illess disturbed of problematic
Restrictive Layer (i	if observ									
Type:			De	pth (inch	es):			H	ydric soil prese	nt? Y_
Remarks:										
Hydric soils present	_									
.,,										
:::/5561.667/										
HYDROLOGY	· I · dinat									
Wetland Hydrology										
Primary Indicators (		ot one i	s requir	ed; chec						icators (minimum of two required)
Surface Water (A	,			Ļ	4	ust (B11)				Soil Cracks (B6)
High Water Table	e (A2)			F	= '	Fauna (I		- 41		ely Vegetated Concave Surface (B8)
Saturation (A3)	١			F			e Odor (C	,	= -	e Patterns (B10)
Water Marks (B1 Sediment Depos	•			H	= -		ter Table pheres or	. ,		d Rhizospheres on Living Roots
Drift Deposits (B:	, ,					a Knizos not tilled)	•	n Liviliy		u Burrows (C8)
Algal Mat or Crus							duced Iron	∽ (CA)		on Visible on Aerial Imagery (C9)
Iron Deposits (B						ick Surfa		11 (04)		rphic Position (D2)
Inundation Visible	•	al Image	rv (R7)	F	=		n Remark	'c)	_	eutral Test (D5)
Water-Stained Le		-	у (Б.)		]011101 (2	_^piaii	Homan	.3)		eaved Hummocks (LRR F)
	2 20100	,	ock her	o if indic	-ators a	re not p	resent:			54464   1411111165116 (2 )
Field Observations	<b>i</b> :	- Cin	JUN IIUI	# 11 man	alois a	IE HOLP	lesein.			
Surface water prese		Yes		No	[J]	Depth (	(inches):			
Water table present		Yes	Ħ	No	N		(inches):		Inc	licators of wetland
Saturation present?		Yes	M	No	П		(inches):	0	hy	/drology present? Y
(includes capillary fr	inge)						· -			
Desc	cribe rec	orded da	ata (stre	am gaug	e, monif	toring we	ell, aerial	photos	s, previous inspe	ctions), if available:
								'		1.
Remarks:										
Remarks: Wetland hydrology i	- dicators	nrocon.								
	Hulcators	, bieseii	Ł.							

Project/Site Falkirk Ethanol Plant Lateral (Blue I	Flint Line) City/	County:	McLean	Sampling Date:	5/6/21
Applicant/Owner: WBI Energy Transmission,	Inc.	State:	ND	Sampling Point:	12u
Investigator(s): LT/AG		Section	on, Township	o, Range: S22, T1	45N, R82W
Landform (hillslope, terrace, etc.):	toeslope	Local re	elief (concav	e, convex, none):	convex
Slope (%): 3 Lat: 47.3	69925	Long:	-101.1019	72 Datum:	WGS 84
Soil Map Unit Name Williams-Bowbells lo	oams, 3 to 6 perce	ent slopes	NWI (	Classification:	-
Subregion (MLRA or LRR): F	Are climatic/hy	drologic cond	ditions of the	site typical for this time of th	ne year? Y
Are vegetation, soil, or hydrology	significantly	disturbed?	Are "nor	mal circumstances" present?	? Y
Are vegetation , soil , or hydrology	naturally pr	oblematic?	(If neede	ed, explain any answers in re	emarks.)
<b>SUMMARY OF FINDINGS - Attach site</b>	map showing	sampling	point loca	tions, transect, import	ant features, etc.
Hydrophytic vegetation present?	<u>N</u>	Is the sa	ampled area	within a wetland?	N
Hydric soil present?	N				
Indicators of wetland hydrology present?	N				
Remarks: (Explain alternative procedures here	or in a separate re	eport.)			
	·	' /			
VEGETATION - Use scientific names of	of plants.				
	Absolute	Dominant	Indicator	Dominance Test Worksh	eet
Tree Stratum (Plot size: 30 ft	_) % Cover	Species	Staus	Number of Dominant Specie	es
1				that are OBL, FACW, or FAC	C: 0 (A)
2				Total Number of Domina	
3				Species Across all Strate	
5	<del></del>			Percent of Dominant Specie that are OBL, FACW, or FAC	
		= Total Cover		mat are ebb, 171011, 611710	0.0070 (74B)
Sapling/Shrub stratum (Plot size: 15 ft	)			Prevalence Index Works	heet
1				Total % Cover of:	
2				· —	1 = 0
3				· —	2 = 0
4	<del></del>			· —	3 = 0 $4 = 240$
] <sup>3</sup>		= Total Cover		· —	5 = <u>240</u>
Herb stratum (Plot size: 5 ft	, — —	- Total Govel		Column totals 60 (A	
1 Pascopyrum smithii		Υ	FACU	Prevalence Index = $B/A$ =	4.00
2 Salvia lycioides	20	Υ	FACU		
3				Hydrophytic Vegetation	Indicators:
4				Rapid test for hydroph	
5				Dominance test is >50 Prevalence index is ≤3	
6				<del></del>	
8				Morphogical adaptatio supporting data in Rer	
9				separate sheet)	namo or on a
10				Problematic hydrophyt	tic vegetation*
	60	= Total Cover		(explain)	
Woody vine stratum (Plot size: 30 ft	)			*Indicators of hydric soil and w	etland hydrology must be
1				present, unless disturbe	ed or problematic
2		- Total Cayar		Hydrophytic vegetation	
% Bare Ground in Herb Statum 40	U	= Total Cover		present? N	
Remarks: (Include photo numbers here or on a	= separate sheet)			<u> </u>	_
Upland vegetation dominates.	,				

SOIL Sampling Point: 12u

i rome bescription	: (Desci	ribe to t	he dept	h neede	d to do	cument	the indi	cator o	r confirm the a	bsence of indicators.)
		Matrix				Mottles				
Depth (Inches)	Color (	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks
0-12	10YR	2/1	100	00.0.	()	,,,	. , , , ,		Loam	. tomainte
12-20	10YR	4/4	100						Clay Loam	
		-, -								
Type: C = Concentra	tion, D =	Depleti	on, RM	= Reduc	ed Matri	x, MS =	Masked	Sand (	Grains. **Lo	cation: PL = Pore Lining, M = Matri
Hydric Soil Indi										roblematic Hydric Soils:
Histisol (A1)				San	dy Gleye	ed Matrix	(S4)	Γ	cm Muck (A9)	_
Histic Epipedon (	A2)				dy Redo		` ,	Ī		dox (A16) (LRR K, L, R)
Black Histic (A3)					pped Ma	. ,		Ī	ark Surface (S7	
Hydrogen Sulfide	. ,				my Muck					ressions (F16) (LRR H, outside MLRA
Stratified Layers					my Gley		(F2)	_	72,73)	(540)
1 cm Muck (A9) (			1		oleted Ma lox Dark	` ,	(EG)	-	educed Vertic ed Parent Mate	` '
Depleted Below I Thick Dark Surfa		ace (A i i	)		leted Da		` '	Ļ		rk Surface (TF12)
Sandy Mucky Mir	,	)			lox Depre		` '	F	ther (explain in	` '
2.5 cm Mucky Pe	•		RR G,H)			,	ons (F16	5)		· omanic)
5 cm Mucky Pea					RA 72, 73					ic vegetation and weltand hydrology must be
		Ch	eck her	e if indi	cators a	re not p	resent:		present, u	Inless disturbed or problematic
Restrictive Layer (i	f observ					•				
Type:		-	Dep	oth (inch	es):			Hy	ydric soil prese	nt? N
Remarks:									-	
Hydric soils absent.										
riyano sono absoni.										
HYDROLOGY										
HYDROLOGY Wetland Hydrology	Indicate	ors:								
			s require	ed; chec	k all that	apply)			Secondary Ind	icators (minimum of two required)
Wetland Hydrology	ninimum		s require	ed; chec	k all that					icators (minimum of two required) Soil Cracks (B6)
Wetland Hydrology Primary Indicators (r	minimum (1)		s require			st (B11)	313)		Surface	
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3)	minimum (1) e (A2)		s require		Salt Cru Aquatic Hydroge	st (B11) Fauna (E en Sulfide	e Odor (C		Surface Sparse	Soil Cracks (B6)
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1	minimum (1) e (A2) )		s require		Salt Cru Aquatic Hydroge Dry Sea	st (B11) Fauna (E en Sulfide son Wat	e Odor (C er Table	(C2)	Surface Sparse Drainage Oxidized	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposi	minimum (1) e (A2) ) ts (B2)		s require		Salt Cru Aquatic Hydroge Dry Sea Oxidized	st (B11) Fauna (Een Sulfide son Wat d Rhizos	e Odor (C er Table oheres o	(C2)	Surface Sparse Drainage Oxidized	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3)
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit	minimum (1) (2) (A2) (3) (B2)		s require		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r	st (B11) Fauna (Een Sulfide son Wat d Rhizosi not tilled)	e Odor (Cer Table oheres or (C3)	(C2) n Living	Surface Sparse Drainage Oxidized (tilled) ((	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8)
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Orift Deposits (B3 Algal Mat or Crus	minimum (1) (2) (A2) (3) (B2) (3) (B4)		s require		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presenc	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) e of Red	e Odor (Cer Table oheres or (C3)	(C2) n Living	Surface Sparse Drainage Oxidizec (tilled) (( Crayfish	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9)
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus	minimum (1) (A2) (b) (ts (B2) (b) (t (B4) (b)	of one i	·		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend	st (B11) Fauna (Een Sulfiderson Wated Rhizosport tilled) ee of Red	e Odor (Cer Table oheres of (C3) duced Iron (C7)	(C2) n Living n (C4)	Surface Sparse Drainage Oxidized (tilled) (Cayfish Saturation Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposi Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5	minimum (1) (A2) (B2) (ts (B2) (B3) (tt (B4) (b) (con Aeria	of one i	·		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend	st (B11) Fauna (Een Sulfiderson Wated Rhizosport tilled) ee of Red	e Odor (Cer Table oheres or (C3)	(C2) n Living n (C4)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatid Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus	minimum (1) (A2) (B2) (ts (B2) (B3) (tt (B4) (b) (con Aeria	of one i	ry (B7)		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (Een Sulfiderson Wated Rhizosport tilled) the e of Redeck Surfaction in	e Odor (Cer Table oheres of (C3) luced Iroloce (C7) Remark	(C2) n Living n (C4)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatid Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le	minimum  11) e (A2) ) ts (B2) 8) et (B4) 6) ee on Aeria	of one i	ry (B7)		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend	st (B11) Fauna (Een Sulfiderson Wated Rhizosport tilled) the e of Redeck Surfaction in	e Odor (Cer Table oheres of (C3) luced Iroloce (C7) Remark	(C2) n Living n (C4)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatid Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le	minimum (1) (2) (A2) (3) (5) (5) (6) (6) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7	al Image	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in	e Odor (Cer Table otheres of (C3) luced Irol (C7) Remark	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatid Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B3 Inundation Visible Water-Stained Le	minimum  (1) (2) (A2) (A2) (A2) (A3) (A3) (A4) (A4) (A4) (A4) (A4) (A4) (A4) (A4	al Image  Che	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat I Rhizos not tilled) se of Red ck Surfa explain in Depth (	e Odor (Cer Table obheres of (C3) luced Iron (C7) Remark	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (Cayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B6 Inundation Visible Water-Stained Le Field Observations Surface water prese Water table present	minimum  (1) (2) (A2) (A2) (A2) (A3) (A3) (A4) (A4) (A4) (A4) (A4) (A4) (A4) (A4	al Image  Che  Yes  Yes	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in  Depth ( Depth (	e Odor (Cer Table oberes of (C3) luced Irol ce (C7) Remark resent:	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidizec (tilled) (Cayfish Saturation Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 High Water Crus Iron Deposits (B3 Inundation Visible Water-Stained Le Field Observations Surface water prese Water table present?	minimum  11) e (A2)  Its (B2) B) st (B4) F) e on Aeris eaves (B5)  It (B4) F) File on Aeris eaves (B5)  File on Aeris eaves (B5)  File on Aeris eaves (B5)	al Image  Che	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in  Depth ( Depth (	e Odor (Cer Table obheres of (C3) luced Iron (C7) Remark	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidizec (tilled) (Cayfish Saturation Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fr	minimum (1) (a) (A2) (b) (b) (c) (b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c	al Image  (i)  Che  Yes  Yes  Yes	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in  Te not pi  Depth ( Depth (	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fr	minimum (1) (a) (A2) (b) (b) (c) (b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c	al Image  (i)  Che  Yes  Yes  Yes	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in  Te not pi  Depth ( Depth (	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B3 Inundation Visible Water-Stained Le Field Observations Surface water prese Water table present' Saturation present? (includes capillary fr	minimum (1) (a) (A2) (b) (b) (c) (b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c	al Image  (i)  Che  Yes  Yes  Yes	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in Te not pi  Depth ( Depth (	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fr	minimum (1) (a) (A2) (b) (b) (c) (B2) (c) (d) (d) (d) (d) (d) (d) (d) (d) (d) (d	al Image  (i)  Che  Yes  Yes  Yes  Yes  Orded da	ry (B7)  eck here	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in Te not pi  Depth ( Depth (	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Lin	ne) City/	County:	McLear	Sampling Date: 5/6/21
Applicant/Owner: WBI Energy Transmission, Inc.		State:	ND	Sampling Point: 12w
Investigator(s): LT/AG		Section	on, Townshi	ip, Range: S22, T145N, R82W
Landform (hillslope, terrace, etc.): depres	ssion	Local r	elief (conca	ve, convex, none): concave
Slope (%): 1 Lat: 47.369785	5	Long:	-101.102	01 Datum: WGS 84
Soil Map Unit Name Williams-Bowbells loams,	3 to 6 perce	ent slopes	NWI	Classification: PEM1C
	e climatic/h	ydrologic cond	 litions of the	e site typical for this time of the year?
Are vegetation , soil , or hydrology	significantly	disturbed?	Are "no	rmal circumstances" present?
	naturally pro		(If need	ed, explain any answers in remarks.)
SUMMARY OF FINDINGS - Attach site ma			g point le	ocations, transect, important features, etc
Hydrophytic vegetation present? Y	•	· ·		a within a wetland?
Hydric soil present? Y	_			
Indicators of wetland hydrology present? Y	_			
, <u> </u>	-	nort \		
Remarks: (Explain alternative procedures here or in a	separate rep	JOIL.)		
VEGETATION III '''	11-			
VEGETATION - Use scientific names of p				Dominance Test Worksheet
Tree Stratum (Plot size: 30 ft )	Absolute % Cover	Dominant Species	Indicator Staus	
1	70 OOVCI	Орсско	Otaus	Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)
2				Total Number of Dominant
3				Species Across all Strata: 1 (B)
4			-	Percent of Dominant Species
5				that are OBL, FACW, or FAC: 100.00% (A/B)
	0	= Total Cover		
Sapling/Shrub stratum (Plot size: 15 ft )				Prevalence Index Worksheet
1				Total % Cover of:
2				OBL species 0 x 1 = 0
3				FACW species 30 x 2 = 60
5				FAC species $0 \times 3 = 0$ FACU species $0 \times 4 = 0$
3	0	= Total Cover		UPL species 0 x 5 = 0
Herb stratum (Plot size: 5 ft )	\ <del></del>	- Total Gover		Column totals 30 (A) 60 (B)
1 Distichlis spicata	30	Υ	FACW	Prevalence Index = $B/A = \frac{C}{2.00}$
2				
3				Hydrophytic Vegetation Indicators:
4				Rapid test for hydrophytic vegetation
5				X Dominance test is >50%
6				X Prevalence index is ≤3.0*
7				Morphogical adaptations* (provide
8				supporting data in Remarks or on a
9			-	separate sheet)
10	30	= Total Cover		Problematic hydrophytic vegetation* (explain)
Woody vine stratum (Plot size: 30 ft )	30	- I Olai COVEI		I—, , ,
1	,			*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2				Hydrophytic
<sup>-</sup>	0	= Total Cover		vegetation
% Bare Ground in Herb Statum 70	-			present? Y
Remarks: (Include photo numbers here or on a separa Hydrophytic vegetation dominates.	ate sheet)			

SOIL Sampling Point: 12w

Profile Description	: (Desc	ribe to t	he dept	h neede	d to do	cument	the indi	cator c	or confirm the a	bsence of indicators.)
		Matrix				Mottles				
Depth (Inches)	Color (	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks
0-6	10YR	2/1	100		Ì				Clay Loam	
6-20	10YR	4/2	95	10YR	4/6	5	С	М	Clay Loam	
T 0 0 1		<u> </u>								
Type: C = Concentra		= Depleti	on, RM	= Reduc	ed Matri	x, MS =	Masked			cation: PL = Pore Lining, M = Matri
Hydric Soil Indi	icators:				dy Claye	d Matrix	(C4)			roblematic Hydric Soils:
Histisol (A1) Histic Epipedon (	Δ2)				idy Gleye idy Redo		(54)	, I	cm Muck (A9)	(LRR I,J) dox (A16) (LRR K, L, R)
Black Histic (A3)	A2)			_	pped Mat	` '		ł	ark Surface (S7	
Hydrogen Sulfide	(A4)				my Muck		l (F1)	Ì		ressions (F16) (LRR H, outside MLRA
Stratified Layers	` '	RF)			my Gleye			•	72,73)	( ', (
1 cm Muck (A9) (					oleted Ma			[	educed Vertic	` '
Depleted Below D		ace (A11	)	_	lox Dark		` '	ļ	ed Parent Mate	` ,
Thick Dark Surfa	, ,				oleted Da lox Depre		` '	ļ		rk Surface (TF12)
Bandy Mucky Mir 2.5 cm Mucky Pe			DD C II)		•	,	го) ons (F16	;) I	ther (explain in	Terriarks)
5 cm Mucky Peat				_	RA 72, 73	•	,			tic vegetation and weltand hydrology must
,		. , .			cators a				be present,	unless disturbed or problematic
Restrictive Layer (i	if observ		eck Her	e ii iiiai	cators a	ile not p	resent.			
Type:	ii Oboci i	ou).	Der	oth (inch	es):			H	ydric soil prese	nt? Y
Remarks:				(					, J	
Hydric soils present.										
Hydric solls present.										
HYDROLOGY										
Wetland Hydrology	/ Indicat	ors:								
Primary Indicators (r	ninimum	of one i	s require	ed; chec	k all that	apply)			Secondary Ind	icators (minimum of two required)
Surface Water (A	<b>\1</b> )			V	Salt Cru	st (B11)			Surface	Soil Cracks (B6)
High Water Table	e (A2)				Aquatic	Fauna (E	313)		☐ Sparse	ely Vegetated Concave Surface (B8)
Saturation (A3)					Hydroge	en Sulfide	Odor (C	21)	☐Drainag	e Patterns (B10)
Water Marks (B1					Dry Sea	son Wat	er Table	(C2)		Rhizospheres on Living Roots
Sediment Deposi							oheres or	n Living	_	
Drift Deposits (B3				_	_ `	not tilled)	. ,			Burrows (C8)
Algal Mat or Crus	. ,			⊢	•		uced Iror	n (C4)		on Visible on Aerial Imagery (C9)
Iron Deposits (B5			(5-)	⊢		ick Surfa				phic Position (D2)
Inundation Visible		-	y (B7)	L	Other (E	Explain in	Remark	s)	_	utral Test (D5)
Water-Stained Le	eaves (B9	<u> </u>						_	Frost-He	eaved Hummocks (LRR F)
F		Che	eck here	if indic	ators ar	re not p	resent:	L		
Field Observations		Voc		No		Donth /	inohoo\.			
Surface water prese		Yes	$\vdash$	No No	널	. ,	inches):		Ire of	icators of wetland
Water table present? Saturation present?	<b>!</b>	Yes	$\vdash$	No No	널		inches): inches):			drology present?
(includes capillary fri	inge)	Yes	ш	NO	$\checkmark$	Бериі (	inches).		<u> </u>	drology present?
		orded d	ata (atro	am dali	no monit	toring v	all acricl	nhotos	provious incre	ctions), if available:
⊔es	cribe rec	oruea a	aia (Siie	am yau(	ye, moni	wing we	aenal	ριισιος	, previous irispe	Suons), ii available.
Remarks:										
Wetland hydrology in	ndicators	present	t.							

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line) Ci	ty/County:	McLean	Sampling Date: 5/6/21	
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND	Sampling Point: 13u-1	
Investigator(s): LT/AG	Section	on, Township	p, Range: S22, T145N, R82W	
Landform (hillslope, terrace, etc.): toeslope	Local re	elief (concav	ve, convex, none): convex	
Slope (%): 1 Lat: 47.368054	Long:	-101.1038	Datum: WGS 84	
Soil Map Unit Name Williams-Zahl-Zahill complex, 6 to 9 p	percent slopes	NWI (	Classification: -	
Subregion (MLRA or LRR): F Are climatic	hydrologic cond	ditions of the	site typical for this time of the year?	Υ
Are vegetation , soil , or hydrology significan	tly disturbed?	Are "nor	mal circumstances" present? Y	
Are vegetation , soil , or hydrology naturally	problematic?	(If neede	ed, explain any answers in remarks.)	
SUMMARY OF FINDINGS - Attach site map showing	ng sampling	point loca	itions, transect, important feature	s, etc.
Hydrophytic vegetation present? N	Is the sa	ampled area	a within a wetland?	·
Hydric soil present?		·		
Indicators of wetland hydrology present?				
Remarks: (Explain alternative procedures here or in a separate	report)			
Transect point taken on slight rise above wetland depression.	, roport.)			
VEGETATION - Use scientific names of plants.				
Absolut	te Dominant	Indicator	Dominance Test Worksheet	
<u>Tree Stratum</u> (Plot size: 30 ft ) % Cove		Staus	Number of Dominant Species	
1			that are OBL, FACW, or FAC: 0	(A)
2			Total Number of Dominant	_
3			Species Across all Strata: 2	(B)
			Percent of Dominant Species	
5			that are OBL, FACW, or FAC: 0.00%	(A/B)
Sapling/Shrub stratum (Plot size: 15 ft )	= Total Cover		Prevalence Index Worksheet	
1			Total % Cover of:	
			OBL species 0 x 1 = 0	
3			FACW species 0 x 2 = 0	_
4			FAC species 0 x 3 = 0	_
5			FACU species 20 x 4 = 80	_
0	= Total Cover	•	UPL species <u>80</u> x 5 = <u>400</u>	_
Herb stratum (Plot size: 5 ft )		LIDI	Column totals 100 (A) 480	_(B)
1 Bromus inermis 80	_ <u>Y</u>	UPL	Prevalence Index = B/A = 4.80	_
2 Elymus repens 20	<u> </u>	FACU	Hydrophytic Vegetation Indicators:	
4			Rapid test for hydrophytic vegetation	n
5			Dominance test is >50%	
6			Prevalence index is ≤3.0*	
7			Morphogical adaptations* (provide	
8	_		supporting data in Remarks or on a	
9			separate sheet)	
10			Problematic hydrophytic vegetation*	ŧ
Woody vine stratum (Plot size: 30 ft )	= Total Cover		(explain)	
Woody vine stratum (Plot size: 30 ft )			*Indicators of hydric soil and wetland hydrology present, unless disturbed or problematic	
			Hydrophytic	
	= Total Cover		vegetation	
% Bare Ground in Herb Statum0			present? N	
Remarks: (Include photo numbers here or on a separate sheet	)			
Upland vegetation dominates.				

SOIL Sampling Point: 13u-1

Profile Description	: (Desc	ribe to t	he dept	h neede	d to do	cument	the indi	cator o	or confirm the a	bsence of indicators.)			
	1	Matrix				Mottles				,			
Depth (Inches)	Color	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks			
0-11	10YR	2/1	100	Coloi	(IIIOISI)	70	туре	LUC	Loam	Remarks			
11-16	10YR	3/1	100						Clay Loam				
16-25	10YR	4/2	95	10YR	4/6	5	С	М	Clay Loam				
10-23	1011	7/2	33	10111	<del>                                     </del>	171	Olay Loam						
Type: C = Concentra	ation, D =	= Deplet	ion, RM	= Reduc	ed Matri	ix, MS =	Masked	Sand	 Grains. **Lo	cation: PL = Pore Lining, M = Matri			
Hydric Soil Ind			· ·			· · · · · · · · · · · · · · · · · · ·				Problematic Hydric Soils:			
Histisol (A1)				Sar	dy Gleye	ed Matrix	(S4)	Γ	cm Muck (A9)	-			
Histic Epipedon (					idy Redo			[		dox (A16) (LRR K, L, R)			
Black Histic (A3)					pped Ma			Ĺ	ark Surface (S7				
Hydrogen Sulfide	` '				my Muck my Gley			L		ressions (F16) (LRR H, outside MLRA			
Stratified Layers 1 cm Muck (A9)					oleted Ma		. ,	Г	72,73)  educed Vertic	(F18)			
Depleted Below I			1)		lox Dark			}	ed Parent Mate	` ,			
√ Thick Dark Surfa		`	,		oleted Da		` '	Ì		rk Surface (TF12)			
Sandy Mucky Mi					lox Depre	,	,	[	ther (explain in	remarks)			
2.5 cm Mucky Pe							ions (F16	S) *1,	adicators of hydrophyt	ic vegetation and weltand hydrology must be			
5 cm Mucky Pea	t or Peat	(S3) (LR	R F)	(ML	RA 72, 73	of LRR H	1)			inless disturbed or problematic			
Check here if indicators are not present: ✓													
Restrictive Layer (if observed):													
Type: Depth (inches): Hydric soil present?Y													
Remarks:													
Hydric soils are pres	sent.												
HYDROLOGY													
Wetland Hydrology	, Indicat	ore:											
Primary Indicators (			ie requir	ad: chac	k all that	t apply)			Cocondon Ind	icators (minimum of two required)			
Surface Water (A		i di dile	is require	cu, criec		st (B11)				icators (minimum of two required) Soil Cracks (B6)			
High Water Table	,			<u> </u>	1	Fauna (f	313)			ly Vegetated Concave Surface (B8)			
Saturation (A3)	3 (712)						e Odor (C	C1)		e Patterns (B10)			
Water Marks (B1	)						er Table			d Rhizospheres on Living Roots			
Sediment Depos							pheres o						
Drift Deposits (B					Roots (r	not tilled)	(C3)		Crayfish	Burrows (C8)			
Algal Mat or Crus					Presenc	e of Red	luced Iro	n (C4)		on Visible on Aerial Imagery (C9)			
Iron Deposits (B					=	ck Surfa	. ,			phic Position (D2)			
Inundation Visible		_	ry (B7)		Other (E	Explain in	Remark	s)	=	utral Test (D5)			
Water-Stained Le	eaves (B								Frost-He	eaved Hummocks (LRR F)			
		Ch	eck here	if indic	ators a	re not p	resent:	✓					
Field Observations		<b>V</b>		N.		D							
Surface water prese		Yes	Н	No	<b>✓</b>		inches):			licators of wetland			
Water table present Saturation present?	?	Yes Yes	H	No No	✓ ✓		inches): inches):			drology present?			
(includes capillary fr	inge)	163		140	✓	Бериі (	iricries).			Tarology present:			
		orded da	ata (etros	m dalla	e monit	oring we	all aprial	nhotos	nrevious inspe	ctions), if available:			
Desi	cribe rec	orueu u	ala (Silea	arri gaug	e, mom	ornig we	on, acriai	priotos	s, previous irispe	ctions), ii available.			
Remarks:													
Wetland hydrology i													
Wolland Hydrology 1	ndicators	s absent	-										

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint L	ine) City/	County:	McLear	Sampling Date: 5/6/21
Applicant/Owner: WBI Energy Transmission, Inc.		State:	ND	Sampling Point: 13u-2
Investigator(s): LT/AG		Secti	on, Townshi	p, Range: S22, T145N, R82W
Landform (hillslope, terrace, etc.): toes	slope	Local r	elief (conca	ve, convex, none): convex
Slope (%): 1 Lat: 47.36866	5	Long:	-101.1087	737 Datum: WGS 84
Soil Map Unit Name Divide loam, 0 to 2	percent slop	oes	NWI	Classification: PEM1C
Subregion (MLRA or LRR): F A	re climatic/h	ydrologic cond	litions of the	site typical for this time of the year?
Are vegetation $\square$ , soil $\overline{\square}$ , or hydrology $\square$	significantly	disturbed?	Are "no	rmal circumstances" present?
Are vegetation ☐ , soil ☐ , or hydrology ☐	naturally pr	oblematic?	(If need	ed, explain any answers in remarks.)
SUMMARY OF FINDINGS - Attach site ma	ap showir	ng samplin	g point le	ocations, transect, important features, e
Hydrophytic vegetation present? N		Is the sa	mpled area	a within a wetland?
Hydric soil present? N				
Indicators of wetland hydrology present?	_			
Remarks: (Explain alternative procedures here or in a	senarate re	nort )		
Point taken in native area. Point taken in a NWI polyg		JOI (. )		
one taken in hative area. I one taken in a rever polyg	O.1.			
VEGETATION - Use scientific names of p	alante			
VEGETATION - Use scientific flames of p	Absolute	Dominant	Indicator	Dominance Test Worksheet
<u>Tree Stratum</u> (Plot size: 30 ft )	% Cover	Species	Staus	Number of Dominant Species
1		•		that are OBL, FACW, or FAC: 0 (A)
2				Total Number of Dominant
3				Species Across all Strata: 1 (B)
4				Percent of Dominant Species
5				that are OBL, FACW, or FAC: 0.00% (A/B)
	0	= Total Cover		
Sapling/Shrub stratum (Plot size: 15 ft	)			Prevalence Index Worksheet
1				Total % Cover of:  OBL species 0 x 1 = 0
3				OBL species $0 \times 1 = 0$ FACW species $0 \times 2 = 0$
4				FAC species 0 x 3 = 0
5				FACU species 100 x 4 = 400
	0	= Total Cover		UPL species 0 x 5 = 0
Herb stratum (Plot size: 5 ft	)			Column totals 100 (A) 400 (B)
1 Elymus repens	100	Y	FACU	Prevalence Index = B/A = 4.00
2				
3				Hydrophytic Vegetation Indicators:
4				Rapid test for hydrophytic vegetation
5				Dominance test is >50%
6				Prevalence index is ≤3.0*
/				Morphogical adaptations* (provide
8				
8 9				supporting data in Remarks or on a
				supporting data in Remarks or on aseparate sheet)
9	100	= Total Cover		supporting data in Remarks or on a
9	100	= Total Cover		supporting data in Remarks or on a  separate sheet)  Problematic hydrophytic vegetation*
9 10	100	= Total Cover		supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain)
9 10	100	= Total Cover		supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic  Hydrophytic
9 10		= Total Cover		supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

SOIL Sampling Point: 13u-2

Profile Description:	: (Desci	ribe to t	ne aept	n neede	d to do	cument	tne inai	cator o	or confirm the a	bsence of indicators.)
		Matrix				Mottles				
Depth (Inches)	Color (	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks
0-4	10YR	2/1	100		<u> </u>	1	7		Clay Loam	
4-18	10YR	3/3	100					Clay Loam	Gravelly	
									-	
						1				
						ļ				
- 2 2	ليبا	- I-4	204	2 4	* * 4 = 4 =		3.2 3		• **! -	C D D Live Me Metal
Type: C = Concentra		- Depleti	on, KIVI	= Reduc	ed Matri	ix, Mis =	Masked			cation: PL = Pore Lining, M = Matri
Hydric Soil Indi	cators.			□Bar	du Clave	ad Matriy	(84)	, ,		roblematic Hydric Soils:
Histic Epipedon (A	A2)				idy Gleye idy Redo	ed Matrix ox (S5)	(34)	ነ	cm Muck (A9) bast Prairie Re	(LRR I,J) dox (A16) (LRR K, L, R)
Black Histic (A3)					pped Ma			t	ark Surface (S	
Hydrogen Sulfide	(A4)			Loa	my Muck	ky Minera		[		essions (F16) (LRR H, outside MLRA
Stratified Layers (						ed Matrix		r	72,73)	
1 cm Muck (A9) (			`		oleted Ma	atrix (F3) Surface		ŀ	educed Vertic ed Parent Mate	
Depleted Below D		ace (A i i	)	_		Surrace ark Surfac	. ,	ŀ		rk Surface (TF12)
Sandy Mucky Min	. ,	)				essions (		Ť	ther (explain in	, ,
2.5 cm Mucky Pe	at or Pea	at (S2) <b>(L</b>					ions (F16		_ ` ` '	,
☐5 cm Mucky Peat	or Peat (	(S3) (LRF	₹ F)	(ML	RA 72, 73	3 of LRR	H)	*Ir		tic vegetation and weltand hydrology must unless disturbed or problematic
			eck her	e if indic	cators a	re not p	resent:	✓		
Restrictive Layer (i	f observ	/ed):								
Type:			Dep	oth (inch	es):			Hy	ydric soil prese	nt? N
Remarks:	-									
Hydric soils absent.										
HYDROLOGY										
Wetland Hydrology	/ Indicat	ors:								
Primary Indicators (n			s require	-d. chec	k all that	annly)			Secondary Ind	: ( i i
Surface Water (A		01 01.0	<u>0 104</u>	<u>ru, u</u>		. upp.,,			O00011441 , 11.5	icators (minimi im of two fedfilted)
High Water Table	,				ISalt Cru	ıst (B11)			_	icators (minimum of two required) Soil Cracks (B6)
Saturation (A3)	` ,			上		ıst (B11) Fauna (E			Surface	Soil Cracks (B6)  Vegetated Concave Surface (B8)
Water Marks (B1)					Aquatic	Fauna (E		;1)	Surface Sparse	Soil Cracks (B6)
	)				Aquatic Hydroge	Fauna (E en Sulfide	B13)		Surface Sparse Drainage	Soil Cracks (B6) ely Vegetated Concave Surface (B8)
Sediment Deposit	ts (B2)				Aquatic Hydroge Dry Sea	Fauna (E en Sulfide ason Wat	B13) e Odor (C	(C2)	Surface Sparse Drainage Oxidized	Soil Cracks (B6) ely Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3)
Sediment Deposit Drift Deposits (B3	ts (B2) 3)				Aquatic Hydroge Dry Sea Oxidized Roots (r	Fauna (Een Sulfide ason Wated Rhizos not tilled)	B13) e Odor (C ter Table of pheres or (C3)	(C2) n Living	Surface Sparse Drainage Oxidizec (tilled) ((	Soil Cracks (B6) ely Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8)
Sediment Deposit Drift Deposits (B3 Algal Mat or Crus	ts (B2) 3) st (B4)				Aquatic Hydroge Dry Sea Oxidized Roots (r Presend	Fauna (Een Sulfidenson Wated Rhizos not tilled) ce of Rec	B13) e Odor (Conter Table of the pheres or (C3) duced Iror	(C2) n Living	Surface Sparse Drainage Oxidized (tilled) (( Crayfish	Soil Cracks (B6) ely Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9)
Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5	ts (B2) 3) st (B4)	السمومين	·· /¤7\		Aquatic Hydroge Dry Sea Oxidized Roots (r Presend	Fauna (Ean Sulfide ason Wated Rhizos not tilled) ase of Red uck Surfa	B13) e Odor (Context Table of the pheres or (C3) duced Ironace (C7)	(C2) n Living n (C4)	Surface Sparse Drainage Oxidized (tilled) (0 Crayfish Saturatio	Soil Cracks (B6) ely Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)
Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5	ts (B2) 3) st (B4) 5) e on Aeria	_	y (B7)		Aquatic Hydroge Dry Sea Oxidized Roots (r Presend	Fauna (Ean Sulfide ason Wated Rhizos not tilled) ase of Red uck Surfa	B13) e Odor (Conter Table of the pheres or (C3) duced Iror	(C2) n Living n (C4)	Surface Sparse Drainage Oxidized (tilled) (0 Crayfish Saturatid Geomor	Soil Cracks (B6) ely Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)
Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5	ts (B2) 3) st (B4) 5) e on Aeria	9)			Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	Fauna (Een Sulfide ason Wat d Rhizos not tilled) ce of Red uck Surfa Explain in	B13) e Odor (Control of Control o	(C2) In Living In (C4) In (C4)	Surface Sparse Drainage Oxidized (tilled) (0 Crayfish Saturatid Geomor	Soil Cracks (B6) ely Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)
Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le	ts (B2) 3) st (B4) 5) e on Aeria eaves (B9	9)	y (B7) <b>eck here</b>		Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	Fauna (Een Sulfide ason Wat d Rhizos not tilled) ce of Red uck Surfa Explain in	B13) e Odor (Control of Control o	(C2) n Living n (C4)	Surface Sparse Drainage Oxidized (tilled) (0 Crayfish Saturatid Geomor	Soil Cracks (B6) ely Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)
Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le	ts (B2) 3) st (B4) 5) e on Aeria eaves (B9	O) Che		if indic	Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	Fauna (ten Sulfide ason Wate de Rhizos not tilled) ce of Recuck Surfa Explain in	B13) e Odor (Citer Table of pheres or (C3) duced Ironace (C7) or Remarks resent:	(C2) In Living In (C4) In (C4)	Surface Sparse Drainage Oxidized (tilled) (0 Crayfish Saturatid Geomor	Soil Cracks (B6) ely Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)
Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le Field Observations Surface water presen	ts (B2) 3) st (B4) 5) e on Aeria eaves (B9 : nt?	9)			Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	Fauna (fen Sulfiden Sulfiden Sulfiden Sulfiden Sulfiden Sunda tilled) ce of Recuck Surfa Explain in Pre not p	B13) e Odor (Coter Table of pheres or (C3) duced Ironace (C7) or Remarks resent:	(C2) In Living In (C4) In (C4)	Surface Sparse Drainage Oxidized (tilled) (( Saturation Geomor FAC-Ne	Soil Cracks (B6) ely Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)
Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le	ts (B2) 3) st (B4) 5) e on Aeria eaves (B9 : nt?	Che Yes		e if indic	Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	Fauna (fen Sulfiden Sulfiden Sulfiden Sulfiden Sulfiden Sunda tilled) ce of Recuck Surfa Explain in Pre not p  Depth ( Depth (	B13) e Odor (Citer Table of pheres or (C3) duced Ironace (C7) or Remarks resent:	(C2) In Living In (C4) In (C4)	Surface Sparse Drainag Oxidized (tilled) ((  Crayfish Saturatid Geomor FAC-Ne Frost-He	Soil Cracks (B6) ely Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)
Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water present	ts (B2) 3) st (B4) 5) e on Aeria eaves (B9 : nt?	Che Yes Yes		if indic	Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	Fauna (fen Sulfiden Sulfiden Sulfiden Sulfiden Sulfiden Sunda tilled) ce of Recuck Surfa Explain in Pre not p  Depth ( Depth (	B13) e Odor (Citer Table of pheres or (C3) duced Ironace (C7) o Remarks resent: (inches):	(C2) In Living In (C4) In (C4)	Surface Sparse Drainag Oxidized (tilled) ((  Crayfish Saturatid Geomor FAC-Ne Frost-He	Soil Cracks (B6) ely Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)
Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le Field Observations Surface water present Saturation present? (includes capillary fri	ts (B2) 33) st (B4) 55) e on Aerize eaves (B9) : nt? ?	Yes Yes Yes Yes	eck here	if indic	Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	Fauna (ten Sulfide ason Wate d Rhizos) not tilled) be of Recuck Surfa Explain in Tenot p  Depth (Depth (Dep	B13) e Odor (Context Table of the Table of t	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (0 Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6) ely Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)
Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le Field Observations Surface water present Saturation present? (includes capillary fri	ts (B2) 33) st (B4) 55) e on Aerize eaves (B9) : nt? ?	Yes Yes Yes Yes	eck here	if indic	Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	Fauna (ten Sulfide ason Wate d Rhizos) not tilled) be of Recuck Surfa Explain in Tenot p  Depth (Depth (Dep	B13) e Odor (Context Table of the Table of t	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (0 Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6) ely Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)
Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations: Surface water preset Water table present? Saturation present? (includes capillary fri	ts (B2) 33) st (B4) 55) e on Aerize eaves (B9) : nt? ?	Yes Yes Yes Yes	eck here	if indic	Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	Fauna (ten Sulfide ason Wate d Rhizos) not tilled) be of Recuck Surfa Explain in Tenot p  Depth (Depth (Dep	B13) e Odor (Context Table of the Table of t	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (0 Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6) ely Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)
Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le Field Observations Surface water present Saturation present? (includes capillary fri	ts (B2) 3) st (B4) 5) e on Aeric eaves (B9 : nt? ? cribe rec	Yes Yes Yes Yes	eck here	if indic	Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	Fauna (ten Sulfide ason Wate d Rhizos) not tilled) be of Recuck Surfa Explain in Tenot p  Depth (Depth (Dep	B13) e Odor (Context Table of the Table of t	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (0 Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6) ely Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line)	City/County:	McLean	Sampling Date:	5/6/21
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND	Sampling Point:	13u-3
Investigator(s): LT/AG	Section	on, Township	, Range: S22, T145	5N, R82W
Landform (hillslope, terrace, etc.): toeslope	Local r	elief (concave	e, convex, none):	onvex
Slope (%): 3 Lat: 47.368106	Long:	-101.11617	74 Datum:	WGS 84
Soil Map Unit Name Bowdle loam, 0 to 2 percentage	ent slopes	NWI C	Classification:	-
Subregion (MLRA or LRR): F Are clim	natic/hydrologic cond	ditions of the	site typical for this time of the	year? Y
Are vegetation , soil , or hydrology signif	icantly disturbed?	Are "norr	mal circumstances" present?	Υ
Are vegetation , soil , or hydrology natur	rally problematic?	(If neede	d, explain any answers in rem	narks.)
SUMMARY OF FINDINGS - Attach site map sho	wing sampling	point locat	tions, transect, importa	nt features, etc.
Hydrophytic vegetation present? N	Is the sa	ampled area	within a wetland? N	
Hydric soil present? Y				
Indicators of wetland hydrology present?				
Remarks: (Explain alternative procedures here or in a sepa	arate report.)			
Point taken at western edge of large wetland complex.				
VEGETATION - Use scientific names of plants.				
·	solute Dominant	Indicator	Dominance Test Workshee	et
<u>Tree Stratum</u> (Plot size: 30 ft ) % (	Cover Species	Staus	Number of Dominant Species	
1			that are OBL, FACW, or FAC:	0 (A)
2			Total Number of Dominant	
3			Species Across all Strata:	1 (B)
			Percent of Dominant Species	
5	0 = Total Cover		that are OBL, FACW, or FAC:	0.00% (A/B)
Sapling/Shrub stratum (Plot size: 15 ft )			Prevalence Index Workshe	
1			Total % Cover of:	
2			OBL species 0 x 1	= 0
3			FACW species 0 x 2	= 0
4			FAC species 0 x 3	
5			FACU species 0 x 4	
(8)	0 = Total Cover	•	UPL species 100 x 5	
Herb stratum   (Plot size: 5 ft )   1 Bromus inermis	100 Y	UPL	Column totals 100 (A) Prevalence Index = B/A =	500 (B) 5.00
2	100 1		Trevalence index - b/A -	3.00
3			Hydrophytic Vegetation In	dicators:
4			Rapid test for hydrophyt	ic vegetation
5			Dominance test is >50%	)
6			Prevalence index is ≤3.0	)*
7			Morphogical adaptations	
8			supporting data in Rema	arks or on a
9			separate sheet)	
10	100 = Total Cover		Problematic hydrophytic (explain)	vegetation*
Woody vine stratum (Plot size: 30 ft )	- 10tal Covel			
1			*Indicators of hydric soil and wetle present, unless disturbed	
2		—— I	Hydrophytic	
	0 = Total Cover		vegetation	
% Bare Ground in Herb Statum 0			present? N	
Remarks: (Include photo numbers here or on a separate sh	neet)			
Upland vegetation dominates.				

SOIL Sampling Point: 13u-3

Profile Description	: (Desci	ribe to t	he dept	h neede	d to do	cument	the indi	cator c	or confirm the a	bsence of indicators.)		
	Matrix Mottles											
Depth (Inches)	Color (	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks		
0-14	10YR	2/1	100	00.0.	(	,,,	. )   0		Loam	T (SINGLING		
14-18	10YR	3/1	100						Clay Loam			
18-28	10YR											
		Clay Loam										
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matri												
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.  **Location: PL = Pore Lining, M = Matri  Hydric Soil Indicators:  Indicators for Problematic Hydric Soils:												
Histisol (A1)				∏San	dy Gleye	ed Matrix	(S4)	Г	cm Muck (A9)	_		
Histic Epipedon (	A2)				dy Redo		()	T		dox (A16) (LRR K, L, R)		
Black Histic (A3)	,				pped Mat			Ì	ark Surface (S7			
Hydrogen Sulfide					my Muck		al (F1)	Ī		ressions (F16) (LRR H, outside MLRA		
Stratified Layers	(A5) (LRF	RF)			my Gleye		(F2)		72,73)			
1 cm Muck (A9)		•			leted Ma				educed Vertic	<b>\</b> /		
Depleted Below I		ace (A1	1)		lox Dark		` '	L	ed Parent Mate	` ,		
✓ Thick Dark Surfa	, ,	`			leted Da		` '	_		rk Surface (TF12)		
Sandy Mucky Mii 2.5 cm Mucky Pe	` '	,	DD C III)		lox Depre	,	,	., L	ther (explain in	remarks)		
5 cm Mucky Pea					n Piains i <b>RA 72, 73</b>		ons (F16		ndicators of hydrophyt	ic vegetation and weltand hydrology must be		
	t or r cat									ınless disturbed or problematic		
Check here if indicators are not present:												
Restrictive Layer (if observed):												
Type: Depth (inches): Hydric soil present?Y												
Remarks:												
Hydric soils present												
HYDROLOGY												
Wetland Hydrology	/ Indicate	ors.								1		
			io roquir	adı ahaa	k all that	· annlu)			0	: <b>t</b> (:-:		
Primary Indicators (		or one	is require	ea; cnec						icators (minimum of two required)		
Surface Water (A	,			<u> </u>	Salt Cru	, ,	240)			Soil Cracks (B6)		
High Water Table	e (A2)			<u> </u>	Aquatic	•		24)		ly Vegetated Concave Surface (B8)		
Saturation (A3)	`			<u> </u>	, , ,		Odor (C	,		e Patterns (B10)		
Water Marks (B1				<u> </u>			er Table			Rhizospheres on Living Roots		
Sediment Depos  Drift Deposits (B3					•		oheres or	n Living		•		
Algal Mat or Crus						ot tilled)	(C3) luced Iron	n (C4)		Burrows (C8) on Visible on Aerial Imagery (C9)		
Iron Deposits (B				<u> </u>	-	ck Surfa		11 (C4)	=			
Inundation Visible		al Imaga	n/ (B7)	<u> </u>	-		. ,	۵)		phic Position (D2) utral Test (D5)		
Water-Stained Le			iy (b <i>i )</i>		Jouner (E	хріаін ін	Remark	s)		eaved Hummocks (LRR F)		
	eaves (DS	,						_	F105t-H	eaved Hullillocks (LRR F)		
Field Observations		Ch	eck here	e if indic	ators ar	re not p	resent:	<b>√</b>				
Field Observations		Voc		No		Donth (	inches):					
Surface water prese Water table present		Yes Yes	$\mathbb{H}$	No No		Depth (	inches):			licators of wetland		
Saturation present?	f	Yes	H	No	<u> </u>		inches):			drology present?		
(includes capillary fr	inge)	163	Ш	140	✓	Doptii (						
		orded d	ata (etro	am doug	e monit	oring wa	all periol	nhotos	nrevious incre	ctions), if available:		
Desc	STING LEC	orueu u	ala (SII C	ani yaug	e, mont	ornig we	ıı, acııdı	ριισισε	s, previous irispe	olionaj, ii avaliabie.		
D												
Remarks: Wetland hydrology i												

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line)	City/County:	McLean	Sampling Date:	5/6/21
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND	Sampling Point:	13w-1
Investigator(s): LT/AG	Section	on, Township, F	Range: S22, T145N, I	R82W
Landform (hillslope, terrace, etc.): depression	n Local r	elief (concave,	convex, none): conca	ve
Slope (%): 0 Lat: 47.367997	Long:	-101.104153	Datum: WG	S 84
Soil Map Unit Name Parnell silty clay loam, 0 to 1	percent slopes	NWI Cla	assification: PEM1/A	ABF
Subregion (MLRA or LRR): F Are clir	matic/hydrologic con	ditions of the si	te typical for this time of the yea	ar? Y
Are vegetation , soil , or hydrology signi	ficantly disturbed?	Are "norma	al circumstances" present?	Υ
Are vegetation , soil , or hydrology natu	rally problematic?	(If needed,	explain any answers in remarks	s.)
SUMMARY OF FINDINGS - Attach site map sho	owing sampling	point location	ons, transect, important f	eatures, etc.
Hydrophytic vegetation present? Y	Is the s	ampled area w	vithin a wetland? Y	
Hydric soil present? Y				
Indicators of wetland hydrology present? Y				
Remarks: (Explain alternative procedures here or in a sepa	arate report.)			
VEGETATION - Use scientific names of plants				
·	solute Dominant	Indicator [	Dominance Test Worksheet	
Tree Stratum (Plot size: 30 ft ) %	Cover Species	Staus N	Number of Dominant Species	
1		th	hat are OBL, FACW, or FAC:	2 (A)
			Total Number of Dominant	
3			Species Across all Strata:	2 (B)
4			Percent of Dominant Species	00 000/ (A/P)
	0 = Total Cover		hat are OBL, FACW, or FAC:10	<u>ло.00%</u> (А/Б)
Sapling/Shrub stratum (Plot size: 15 ft )			Prevalence Index Worksheet	
1			Total % Cover of:	
2			OBL species 80 x 1 =	80
3		F	FACW species 20 x 2 =	40
4			FAC species 0 x 3 =	0
5			FACU species 0 x 4 =	0
(5)	0 = Total Cover		UPL species 0 x 5 =	0 100 (B)
Herb stratum (Plot size: 5 ft )   1 Typha angustifolia	80 Y		Column totals 100 (A)  Prevalence Index = B/A =	120 (B)
2 Spartina pectinata	20 Y	FACW	- Index - D/A -	1.20
3			Hydrophytic Vegetation Indica	ators:
4			Rapid test for hydrophytic ve	
5			X Dominance test is >50%	
6			X Prevalence index is ≤3.0*	
7			Morphogical adaptations* (p	rovide
8			supporting data in Remarks	or on a
9			separate sheet)	
10	100 = Total Cover		Problematic hydrophytic veg (explain)	jetation"
Woody vine stratum (Plot size: 30 ft )	100 1010100001	-	<del></del> · · ·	
1			*Indicators of hydric soil and wetland he present, unless disturbed or present.	
2			Hydrophytic	
	0 = Total Cover	-	vegetation	
% Bare Ground in Herb Statum 0			present? Y	
Remarks: (Include photo numbers here or on a separate s	heet)			
Hydrophytic vegetation dominates.				

SOIL Sampling Point: 13w-1

Profile Description	: (Desc	ribe to t	he dept	n neede	d to do	cument	the indi	cator o	r confirm the a	bsence of indicators.)		
		Matrix				Mottles						
Depth (Inches)	Color	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks		
0-12	10YR	2/1	95	7.5YR	4/6	5	C	М	Clay Loam			
									,			
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix												
Hydric Soil Indi	icators:	-							Indicators for P	roblematic Hydric Soils:		
Histisol (A1)				San	dy Gleye	ed Matrix	(S4)		cm Muck (A9)	(LRR I,J)		
Histic Epipedon (	A2)				dy Redo			Ī		dox (A16) (LRR K, L, R)		
Black Histic (A3)					oped Ma	. ,			ark Surface (S7			
Hydrogen Sulfide	. ,	_				ky Minera		L		ressions (F16) (LRR H, outside MLRA		
Stratified Layers						ed Matrix	(F2)	г	72,73) educed Vertic	(F10)		
1 cm Muck (A9) ( Depleted Below I			1)	·	leted Ma	Surface	(E6)	H	educed Vertic	· ,		
Thick Dark Surfa		acc (AT	')			rk Surfac	` '	F		rk Surface (TF12)		
Sandy Mucky Mir	,	)		:		essions (	` ,	Ī	ther (explain in	` '		
2.5 cm Mucky Pe	•	,	RR G,H)		•	,	ons (F16	5)		,		
5 cm Mucky Pea	t or Peat	(S3) (LRI	R F)	(ML	RA 72, 73	of LRR H	) ·	′ *In		ic vegetation and weltand hydrology must be inless disturbed or problematic		
		Ch	eck her	e if indi	cators a	re not p	resent:	П	present, t	inless disturbed or problematic		
Restrictive Layer (i	Check here if indicators are not present:  Restrictive Layer (if observed):											
Type: Depth (inches): Hydric soil present? Y												
Remarks:				•					•			
Hydric soils present.												
riyunc sons present.												
HYDROLOGY												
Wetland Hydrology	Indicat	ors:										
Primary Indicators (r	<u>minimum</u>	of one i	s require	ed; chec	k all that	apply)			Secondary Ind	icators (minimum of two required)		
Surface Water (A	(1)		-		Salt Cru	st (B11)			Surface	Soil Cracks (B6)		
High Water Table	(A2)				Aquatic	Fauna (E	313)		Sparse	ly Vegetated Concave Surface (B8)		
✓Saturation (A3)					Hydroge	en Sulfide	e Odor (C	C1)	Drainag	e Patterns (B10)		
Water Marks (B1	)				Dry Sea	son Wat	er Table	(C2)	Oxidized	d Rhizospheres on Living Roots		
Sediment Deposi					Oxidized	d Rhizos <sub>l</sub>	pheres or	n Living	(tilled) (0	C3)		
Drift Deposits (B3	,			-		not tilled)				Burrows (C8)		
Algal Mat or Crus					:		luced Iron	n (C4)		on Visible on Aerial Imagery (C9)		
Iron Deposits (B5						ck Surfa	. ,		<u> </u>	phic Position (D2)		
Inundation Visible		_	ry (B7)		Other (E	Explain in	Remark	s)		utral Test (D5)		
Water-Stained Le	eaves (B	9)							Frost-He	eaved Hummocks (LRR F)		
		Che	eck here	if indic	ators a	re not p	resent:					
Field Observations												
Surface water prese	nt?	Yes	Щ	No	$\square$		inches):					
Water table present				No		Depth (	inchae).		l Ind	licators of wetland		
		Yes	Ц		=		,					
Saturation present?	?	Yes Yes	<b>✓</b>	No			inches):	0		drology present? Y		
Saturation present? (includes capillary fr	? inge)	Yes	<b>✓</b>	No		Depth (	inches):	0	hy	rdrology present? Y		
Saturation present? (includes capillary fr	? inge)	Yes	√ ata (strea	No	e, monit	Depth (	inches):	0	hy			
Saturation present? (includes capillary fr	? inge)	Yes	√ ata (strea	No	e, monit	Depth (	inches):	0	hy	rdrology present? Y		
Saturation present? (includes capillary fr	? inge)	Yes	ata (strea	No	e, monit	Depth (	inches):	0	hy	rdrology present? Y		
Saturation present? (includes capillary fr Desc	? inge) cribe rec	Yes orded da		No	e, monit	Depth (	inches):	0	hy	rdrology present? Y		

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line) Cit	ty/County:	McLean	Sampling Date: 5/6/21
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND	Sampling Point: 13w-2
Investigator(s): LT/AG	Section	on, Township	o, Range: S22, T145N, R82W
Landform (hillslope, terrace, etc.): depression	Local re	elief (concav	e, convex, none): concave
Slope (%): 0 Lat: 47.368534	Long:	-101.1086	16 Datum: WGS 84
Soil Map Unit Name Divide loam, 0 to 2 percent sl	lopes	NWI C	Classification: PEM1C
Subregion (MLRA or LRR): F Are climatic	hydrologic cond	ditions of the	site typical for this time of the year?
Are vegetation , soil , or hydrology significant	tly disturbed?	Are "nor	mal circumstances" present?
Are vegetation , soil , or hydrology naturally	problematic?	(If neede	ed, explain any answers in remarks.)
SUMMARY OF FINDINGS - Attach site map showin	ng sampling	point loca	tions, transect, important features, etc.
Hydrophytic vegetation present? Y			ı within a wetland?
Hydric soil present? Y			
Indicators of wetland hydrology present? Y			
Remarks: (Explain alternative procedures here or in a separate	report.)		
Point taken in native area. Point taken in NWI polygon.	100011.)		
. ,,			
VEGETATION - Use scientific names of plants.			
Absolut	e Dominant	Indicator	Dominance Test Worksheet
Tree Stratum (Plot size: 30 ft ) % Cove		Staus	Number of Dominant Species
1			that are OBL, FACW, or FAC:1 (A)
2			Total Number of Dominant
3			Species Across all Strata: 2 (B)
			Percent of Dominant Species
	= Total Cover		that are OBL, FACW, or FAC: 50.00% (A/B)
Sapling/Shrub stratum (Plot size: 15 ft )			Prevalence Index Worksheet
1			Total % Cover of:
2			OBL species 10 x 1 = 10
3			FACW species 40 x 2 = 80
4			FAC species 0 x 3 = 0
5			FACU species 20 x 4 = 80
0	= Total Cover		UPL species $0 \times 5 = 0$
Herb stratum (Plot size: 5 ft )	V	EAC)A/	Column totals 70 (A) 170 (B) Prevalence Index = $B/A$ = 2.43
1 Spartina pectinata 40 2 Elymus repens 20	<u>Y</u>	FACW FACU	Prevalence Index = B/A = 2.43
3 Typha latifolia 10	_ <u>'</u>	OBL	Hydrophytic Vegetation Indicators:
4			Rapid test for hydrophytic vegetation
5			Dominance test is >50%
6			X Prevalence index is ≤3.0*
7			Morphogical adaptations* (provide
8			supporting data in Remarks or on a
9			separate sheet)
10	= Total Cover		Problematic hydrophytic vegetation*
Woody vine stratum (Plot size: 30 ft )	Total Cover		(explain)
1			*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
			Hydrophytic
	= Total Cover		vegetation
% Bare Ground in Herb Statum10			present? Y
Remarks: (Include photo numbers here or on a separate sheet)			
20% litter in herb stratum. Hydrophytic vegetation dominates.			

SOIL Sampling Point: 13w-2

Profile Description	: (Desci	ribe to t	he depti	h neede	d to do	cument	the indi	cator o	r confirm the a	bsence of indicators.)								
		Matrix				Mottles												
Depth (Inches)	Color	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks								
0-12	10YR	2/1	95	10YR	4/6	5	C	М	Clay Loam									
									,									
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix																		
Hydric Soil Indi			-			-				roblematic Hydric Soils:								
Histisol (A1)				San	dy Gleye	ed Matrix	(S4)	Γ	cm Muck (A9)	_								
Histic Epipedon (	A2)				idy Redo					dox (A16) (LRR K, L, R)								
Black Histic (A3)	(* 4)				pped Ma	. ,		L	ark Surface (S7									
Hydrogen Sulfide	. ,				my Muck			L		essions (F16) (LRR H, outside MLRA								
Stratified Layers 1 cm Muck (A9) (					my Gleyo leted Ma		(FZ)	Г	72,73)  educed Vertic	(F18)								
Depleted Below [			)	·	lox Dark	, ,	(F6)	H	ed Parent Mate	` ,								
Thick Dark Surfa			,		leted Da		` '	Ė		rk Surface (TF12)								
Sandy Mucky Mir	neral (S1	)		Rec	lox Depre	essions (	F8) ´	Ī	ther (explain in	` '								
2.5 cm Mucky Pe							ons (F16											
5 cm Mucky Peat or Peat (S3) (LRR F)  (MLRA 72, 73 of LRR H)  *Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic																		
		Ch	eck her	e if indi	cators a	re not p	resent:		p. 333114, 1	micee dictal 200 Ci probisinatio								
Check here if indicators are not present:  Restrictive Layer (if observed):																		
Type:																		
Remarks:																		
Hydric soils present.																		
Hydric solls present.																		
HYDROLOGY																		
HYDROLOGY Wetland Hydrology	Indicat																	
HYDROLOGY Wetland Hydrology Primary Indicators (r	Indicat		s require	ed; chec						icators (minimum of two required)								
HYDROLOGY Wetland Hydrology Primary Indicators (r	r Indicat		s require		Salt Cru	st (B11)			Surface	Soil Cracks (B6)								
HYDROLOGY Wetland Hydrology Primary Indicators (r Surface Water (A	r Indicat		s require		Salt Cru Aquatic	st (B11) Fauna (E			Surface Sparse	Soil Cracks (B6) ly Vegetated Concave Surface (B8)								
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3)	r Indicat minimum (1) e (A2)		s require		Salt Cru Aquatic Hydroge	st (B11) Fauna (E en Sulfide	e Odor (C		Surface Sparse Drainage	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10)								
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1	r Indicat minimum (1) e (A2)		s require		Salt Cru Aquatic Hydroge Dry Sea	st (B11) Fauna (E en Sulfide son Wat	e Odor (C er Table	(C2)	Surface Sparse Drainage Oxidized	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots								
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposi	r Indicat minimum (1) e (A2) )		s require		Salt Cru Aquatic Hydroge Dry Sea Oxidized	st (B11) Fauna (Een Sulfide son Wat d Rhizos	e Odor (C er Table oheres o	(C2)	Surface Sparse Drainage Oxidized	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3)								
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit	r Indicat minimum 11) e (A2) ) its (B2) 3)		s require		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r	st (B11) Fauna (Een Sulfide son Wat d Rhizosi not tilled)	e Odor (Cer Table oheres or (C3)	(C2) n Living	Surface Sparse Drainage Oxidized (tilled) ((	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8)								
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Orift Deposits (B3 Algal Mat or Crus	v Indicateminimum (1) e (A2) ) its (B2) st (B4)		s require		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presenc	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) e of Red	e Odor (Cer Table oheres or (C3)	(C2) n Living	Surface Sparse Drainage Oxidized (tilled) (( Crayfish	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9)								
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Orift Deposits (B3 Algal Mat or Crus	v Indicateminimum (1) e (A2) ) its (B2) 3) st (B4) 5)	of one i			Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend	st (B11) Fauna (Een Sulfiderson Wated Rhizosport tilled) ee of Red	e Odor (Cer Table oheres of (C3) duced Iron (C7)	(C2) n Living n (C4)	Surface Sparse Drainage Oxidized (tilled) (Cayfish Saturation Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)								
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible	r Indicat minimum (1) e (A2) ) tts (B2) 3) st (B4) 5) e on Aeria	of one i			Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend	st (B11) Fauna (Een Sulfiderson Wated Rhizosport tilled) ee of Red	e Odor (Cer Table oheres or (C3)	(C2) n Living n (C4)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatid Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)								
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Orift Deposits (B3 Algal Mat or Crus	r Indicat minimum (1) e (A2) ) tts (B2) 3) st (B4) 5) e on Aeria	of one i	ry (B7)		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (Een Sulfiderson Wated Rhizosport tilled) the e of Redeck Surfaction in	e Odor (Cer Table oheres of (C3) luced Iron (C7) Remark	(C2) n Living n (C4)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatid Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)								
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le	r Indicat minimum (1) e (A2) ) its (B2) 3) st (B4) 5) e on Aeric eaves (B9	of one i			Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (Een Sulfiderson Wated Rhizosport tilled) the e of Redeck Surfaction in	e Odor (Cer Table oheres of (C3) luced Iron (C7) Remark	(C2) n Living n (C4)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatid Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)								
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le	r Indicat minimum (1) e (A2) ) its (B2) 3) st (B4) 5) e on Aeric eaves (B9	al Image	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat I Rhizos not tilled) se of Red ck Surfa explain in	e Odor (Cer Table otheres of (C3) luced Irol (C7) Remark	(C2) n Living n (C4)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatid Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)								
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Hagal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese	r Indicat minimum (1) e (A2) ) its (B2) 3) st (B4) 5) e on Aeric eaves (B9	al Image  Che	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat I Rhizos not tilled) se of Red ck Surfa explain in Depth (	e Odor (Cer Table obheres of (C3) luced Iron (C7) Remark	(C2) n Living n (C4)	Surface Sparse Drainage Oxidizec (tilled) (Cayfish Saturation Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)								
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposits (B3 Algal Mat or Crus Iron Deposits (B3 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present	r Indicat minimum (1) e (A2) ) its (B2) 3) st (B4) 5) e on Aeric eaves (B9	al Image  Che  Yes  Yes	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in  Depth ( Depth (	e Odor (Cer Table oberes of (C3) luced Irol ce (C7) Remark resent:	(C2) n Living n (C4)	Surface Sparse Drainage Oxidizec (tilled) (Cayfish Saturation Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)								
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposits (B3 Algal Mat or Crus Iron Deposits (B3 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present?	r Indicat minimum 11) e (A2) ) its (B2) 3) st (B4) 5) e on Aeric eaves (B9) : nt? ?	al Image  Che	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in  Depth ( Depth (	e Odor (Cer Table obheres of (C3) luced Iron (C7) Remark	(C2) n Living n (C4)	Surface Sparse Drainage Oxidizec (tilled) (Cayfish Saturation Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)								
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Orift Deposits (B3 Algal Mat or Crus Iron Deposits (B3 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fr	r Indicat minimum 11) e (A2) ) its (B2) 3) st (B4) 6) e on Aerie eaves (B9 : nt? ?	al Image  O  Che  Yes  Yes  Yes  Yes	ry (B7) eck here	s if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in Te not pi  Depth ( Depth (	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)								
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Orift Deposits (B3 Algal Mat or Crus Iron Deposits (B3 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fr	r Indicat minimum 11) e (A2) ) its (B2) 3) st (B4) 6) e on Aerie eaves (B9 : nt? ?	al Image  O  Che  Yes  Yes  Yes  Yes	ry (B7) eck here	s if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in Te not pi  Depth ( Depth (	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)								
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B3 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fr	r Indicat minimum 11) e (A2) ) its (B2) 3) st (B4) 6) e on Aerie eaves (B9 : nt? ?	al Image  O  Che  Yes  Yes  Yes  Yes	ry (B7) eck here	s if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in Te not pi  Depth ( Depth (	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)								
HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fr	r Indicateminimum (1) e (A2) ) its (B2) 3) et (B4) 6) e on Aeric eaves (B9 : : : : : : : : : : : : : : : : : : :	al Image  Ohe  Yes  Yes  Yes  Yes  Orded da	ry (B7)  eck here	s if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in Te not pi  Depth ( Depth (	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)								

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line) City/	County:	McLean	Sampling Date: 5/6/21
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND	Sampling Point: 13w-3
Investigator(s): LT/AG	Section	on, Township	o, Range: S22, T145N, R82W
Landform (hillslope, terrace, etc.): depression	Local re	elief (concav	re, convex, none): concave
Slope (%): 1 Lat: 47.368093	Long:	-101.1160	09 Datum: WGS 84
Soil Map Unit Name Bowdle loam, 0 to 2 percent slo	pes	NWI C	Classification: -
Subregion (MLRA or LRR): F Are climatic/hy	ydrologic cond	ditions of the	site typical for this time of the year?
Are vegetation , soil , or hydrology significantly	disturbed?	Are "nor	mal circumstances" present?
Are vegetation , soil , or hydrology naturally pro	oblematic?	(If neede	ed, explain any answers in remarks.)
SUMMARY OF FINDINGS - Attach site map showing		point loca	tions, transect, important features, etc.
Hydrophytic vegetation present?	Is the sa	ampled area	a within a wetland?
Hydric soil present?			
Indicators of wetland hydrology present?			
Remarks: (Explain alternative procedures here or in a separate re	enort )		
Tremarks. (Explain diternative procedures here of in a separate re	sport.)		
VEGETATION - Use scientific names of plants.			
Absolute	Dominant	Indicator	Dominance Test Worksheet
Tree Stratum (Plot size: 30 ft ) % Cover	Species	Staus	Number of Dominant Species
1			that are OBL, FACW, or FAC:1 (A)
2			Total Number of Dominant
3			Species Across all Strata: 1 (B)
			Percent of Dominant Species
5	= Total Cover		that are OBL, FACW, or FAC: 100.00% (A/B)
Sapling/Shrub stratum (Plot size: 15 ft )	- Total Cover		Prevalence Index Worksheet
1			Total % Cover of:
2	·		OBL species 0 x 1 = 0
3			FACW species 100 x 2 = 200
4			FAC species 0 x 3 = 0
5			FACU species 0 x 4 = 0
<u> </u>	= Total Cover	•	UPL species 0 x 5 = 0
Herb stratum (Plot size: 5 ft )	V	EA 0\A(	Column totals 100 (A) 200 (B)
1 Spartina pectinata 100	<u> </u>	FACW	Prevalence Index = B/A = 2.00
2			Hydrophytic Vegetation Indicators:
4			Rapid test for hydrophytic vegetation
5			X Dominance test is >50%
6			X Prevalence index is ≤3.0*
7			Morphogical adaptations* (provide
8			supporting data in Remarks or on a
9			separate sheet)
10			Problematic hydrophytic vegetation*
<u></u>	= Total Cover		(explain)
Woody vine stratum (Plot size: 30 ft )			*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
			Hydrophytic
	= Total Cover		vegetation
% Bare Ground in Herb Statum0			present? Y
Remarks: (Include photo numbers here or on a separate sheet)			
Hydrophytic vegetation dominates.			

SOIL Sampling Point: 13w-3

Profile Description	: (Desci	ribe to t	he dept	h neede	d to do	cument	the indi	cator c	or confirm the a	bsence of indicators.)			
Matrix Mottles									·				
Depth (Inches)	Color (	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks			
0-9	10YR	2/1	100	00.01	(1110101)	,,,	1,750		Silty Clay Loam	rtemante			
9-18	10YR	4/1	95	10YR	4/6	5	С	М	Silty Clay Loam				
		-, -											
Type: C = Concentra	ation, D =	- Depleti	on, RM	= Reduc	ed Matri	ix, MS =	Masked	Sand	Grains. **Lo	cation: PL = Pore Lining, M = Matri:			
Hydric Soil Ind		<u> </u>	•			•				Problematic Hydric Soils:			
Histisol (A1)				Sar	dy Gleye	ed Matrix	(S4)	Г	cm Muck (A9)	-			
Histic Epipedon (	(A2)				idy Redo		` ,	Ī		dox (A16) (LRR K, L, R)			
Black Histic (A3)					pped Ma	, ,		Ī	ark Surface (S7				
Hydrogen Sulfide						ky Minera				ressions (F16) (LRR H, outside MLRA			
Stratified Layers					, ,	ed Matrix	(F2)	г	72,73)	(540)			
1 cm Muck (A9)			1)			atrix (F3) Surface	(E6)	}	educed Vertic ed Parent Mate				
Depleted Below I Thick Dark Surfa		ace (A I	1)			irk Surface	` '	ļ		rk Surface (TF12)			
Sandy Mucky Mi	, ,	)				essions (	` '	<u> </u>	ther (explain in	` ,			
2.5 cm Mucky Pe			RR G,H)			,	ons (F16	5)		,			
5 cm Mucky Pea						of LRR H				ic vegetation and weltand hydrology must be			
		Ch	eck her	e if indi	cators a	re not p	resent:	П	present, L	ınless disturbed or problematic			
Restrictive Layer (i	f observ												
Type:		,	Der	oth (inch	es):			Н	ydric soil prese	nt? Y			
Remarks:				(					, p				
Hydric soils present													
HYDROLOGY													
Wetland Hydrology	Indicat	ors:											
Primary Indicators (r	minimum	of one i	s require	ed: chec	k all that	t apply)			Secondary Ind	icators (minimum of two required)			
Surface Water (A			•	·		ıst (B11)				Soil Cracks (B6)			
High Water Table	,			<u> </u>	L.	Fauna (E	313)			ly Vegetated Concave Surface (B8)			
Saturation (A3)	( )					•	e Odor (C	C1)		e Patterns (B10)			
Water Marks (B1	)						er Table		= -	d Rhizospheres on Living Roots			
Sediment Depos	its (B2)				Oxidized	d Rhizos <sub>l</sub>	pheres or	n Living	tilled) (0	C3)			
Drift Deposits (B	3)					not tilled)			Crayfish	Burrows (C8)			
Algal Mat or Crus	st (B4)				Presenc	e of Red	luced Iro	n (C4)	Saturation	on Visible on Aerial Imagery (C9)			
☐Iron Deposits (B5	5)				Thin Mu	ick Surfa	ce (C7)		✓Geomor	phic Position (D2)			
Inundation Visible	e on Aeria	al Image	ry (B7)		Other (E	Explain in	Remark	s)		utral Test (D5)			
Water-Stained Le	eaves (B9	9)							Frost-He	eaved Hummocks (LRR F)			
		Che	eck here	if indic	ators a	re not p	resent:						
Field Observations													
Surface water prese		Yes		No	$\checkmark$		inches):						
Water table present	?	Yes	Ш	No			inches):			licators of wetland			
Saturation present?		Yes	<b>✓</b>	No		Depth (	inches):	0	hy	rdrology present? Y			
(includes capillary fr													
Desc	cribe rec	orded da	ata (strea	am gaug	e, monit	oring we	ell, aerial	photos	s, previous inspe	ctions), if available:			
Remarks:													
Wetland hydrology i	ndicators	s presen	t.										
.,													

Project/Site Falkirk Ethanol Plant Lateral (Blue F	lint Line) City/	County:	McLean	Sampling Date:	5/6/21
Applicant/Owner: WBI Energy Transmission,	Inc.	State:	ND	Sampling Point:	14u
Investigator(s): LT/AG		Section	on, Township	o, Range: S21,	T145N, R82W
Landform (hillslope, terrace, etc.):	toeslope	Local re	elief (concav	e, convex, none):	convex
Slope (%): 3 Lat: 47.3	69598	Long:	-101.1306	14 Datum:	WGS 84
Soil Map Unit Name Williams-Bowbells lo	ams, 3 to 6 perce	ent slopes	NWI C	Classification:	-
Subregion (MLRA or LRR): F	Are climatic/hy	drologic cond	ditions of the	site typical for this time of	f the year? Y
Are vegetation , soil , or hydrology	significantly	disturbed?	Are "nori	mal circumstances" prese	nt? N
Are vegetation , soil , or hydrology	naturally pr			ed, explain any answers in	
SUMMARY OF FINDINGS - Attach site			point loca	tions, transect, impo	rtant features, etc.
Hydrophytic vegetation present?	N	Is the sa	ampled area	within a wetland?	N
Hydric soil present?					<del></del>
Indicators of wetland hydrology present?					
Remarks: (Explain alternative procedures here of	r in a senarate re	aport )			
Point taken in agricultural field. Natural vegetation	•	. ,	ased on soil:	s and topography. Drough	t conditions are present
throughout the region, and the project area is dri				- aa topograpj. 2.0ag	Toomaniono and process
VEGETATION - Use scientific names o	f nlants				
COLIATION - 03c Scientific flames of	Absolute	Dominant	Indicator	Dominance Test Work	sheet
Tree Stratum (Plot size: 30 ft	) % Cover	Species	Staus	Number of Dominant Spe	
1	_'			that are OBL, FACW, or F	
2				Total Number of Domi	nant
3				Species Across all Str	rata: 0 (B)
4				Percent of Dominant Spe	
5		<del></del>		that are OBL, FACW, or F	FAC: 0.00% (A/B)
Sonling/Shrub stratum (Dlot size: 15 ft	\ <u> </u>	= Total Cover		Prevalence Index Worl	kahaat
Sapling/Shrub stratum (Plot size: 15 ft 1	)			Total % Cover of:	tsneet
'2	<del></del>			OBL species 0	x 1 = 0
3				FACW species 0	x 2 = 0
4				FAC species 0	x 3 = 0
5				FACU species 0	x 4 = 0
	0	= Total Cover		UPL species 0	x 5 = 0
Herb stratum (Plot size: 5 ft	)			Column totals 0	(A) 0 (B)
1				Prevalence Index = B/A	=
2				Hydrophytic Vegetatio	n Indicators:
3 <u> </u>				Rapid test for hydro	
5	<del></del>			Dominance test is >	
6				Prevalence index is	
7				—— Morphogical adapta	tions* (provide
8				supporting data in R	
9				separate sheet)	
10				Problematic hydropl	nytic vegetation*
	,0	= Total Cover	•	(explain)	
Woody vine stratum (Plot size: 30 ft	)				d wetland hydrology must be
1 2				· · · · · · · · · · · · · · · · · · ·	urbed or problematic
2		= Total Cover		Hydrophytic vegetation	
% Bare Ground in Herb Statum 100	· ·	. 5.01 50761		<del>-</del>	N
Remarks: (Include photo numbers here or on a s	separate sheet)				
Natural vegetation absent due to agricultural act		nt conditions.	Area assume	ed upland based on the la	ck of hydric soils and
wetland hydrology indicators.					

SOIL Sampling Point: 14u

Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Mater-Stained Leaves (B9)  Check here if indicators are not present:  Water Hable present?  Yes  No  Depth (inches):  Water Jable (A2)  Secondary Indicators (minimum of two required)  Secondary Indicators (minimum of two required)  Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Sparsely Vegetated Concave Surface (B8)  Drainage Patterns (B10)  Oxidized Rhizospheres on Living  (tilled) (C3)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  FAC-Neutral Test (D5)  Frost-Heaved Hummocks (LRR F)  Field Observations:  Surface water present?  Yes  No  Depth (inches):  Water table present?  Yes  No  Depth (inches):  Water table present?  Yes  No  Depth (inches):  Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Profile Description	: (Desci	ribe to t	he dept	h neede	d to do	cument	the indi	cator o	r confirm the a	bsence of indicators.)		
O-14	T T												
O-14	Depth (Inches)	Color (	(moist)	%	Color	moist)	%	Type*	Loc**	Texture	Remarks		
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix Hydric Soil Indicators:	. , ,		, ,			,,,,,		. 71-					
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matri Hydric Soil Indicators:    Histisol (A1)	14-24	10YR	3/2	100						Loam			
Hydric Soil Indicators:  Histics (A1) Histic Epipedon (A2) Black Histic (A3) Stripped Matrix (S6) Briting Active Matrix (A2) Briting Active Matrix (A3) Depleted Below Dark Surface (A11) Bepleted Below Dark Surface (A11) Bepleted Below Dark Surface (A12) Bandy Mucky Mineral (S1) Bed Matrix (F2) Bandy Mucky Mineral (S1) Bed Matrix (F3) Bed Matrix (F3) Bed Matrix (F3) Bed Matrix (F3) Bed Matrix (F4) Bed Matrix (F3) Bed Matrix (F4) Bed Matrix (F3) Bed Matrix (F4) Bed Matrix (F6) Bed Matrix (F7) Bed Matrix (F7) Bed Matrix (F7) Bed Matrix (F16) Bed Matrix (F7) Bed Matrix (F7) Bed Matrix (F16) Bed Matrix (F16) Bed Matrix (F17) Bed Matrix (F18) Bed Ma	24-30	10YR	2/1	95	7.5YR	4/4	5	С	М	Clay			
Hydric Soil Indicators:  Histics (A1) Histic Epipedon (A2) Black Histic (A3) Stripped Matrix (S6) Briting Active Matrix (A2) Briting Active Matrix (A3) Depleted Below Dark Surface (A11) Bepleted Below Dark Surface (A11) Bepleted Below Dark Surface (A12) Bandy Mucky Mineral (S1) Bed Matrix (F2) Bandy Mucky Mineral (S1) Bed Matrix (F3) Bed Matrix (F3) Bed Matrix (F3) Bed Matrix (F3) Bed Matrix (F4) Bed Matrix (F3) Bed Matrix (F4) Bed Matrix (F3) Bed Matrix (F4) Bed Matrix (F6) Bed Matrix (F7) Bed Matrix (F7) Bed Matrix (F7) Bed Matrix (F16) Bed Matrix (F7) Bed Matrix (F7) Bed Matrix (F16) Bed Matrix (F16) Bed Matrix (F17) Bed Matrix (F18) Bed Ma													
Hydric Soil Indicators:  Histics (A1) Histic Epipedon (A2) Black Histic (A3) Stripped Matrix (S6) Briting Active Matrix (A2) Briting Active Matrix (A3) Depleted Below Dark Surface (A11) Bepleted Below Dark Surface (A11) Bepleted Below Dark Surface (A12) Bandy Mucky Mineral (S1) Bed Matrix (F2) Bandy Mucky Mineral (S1) Bed Matrix (F3) Bed Matrix (F3) Bed Matrix (F3) Bed Matrix (F3) Bed Matrix (F4) Bed Matrix (F3) Bed Matrix (F4) Bed Matrix (F3) Bed Matrix (F4) Bed Matrix (F6) Bed Matrix (F7) Bed Matrix (F7) Bed Matrix (F7) Bed Matrix (F16) Bed Matrix (F7) Bed Matrix (F7) Bed Matrix (F16) Bed Matrix (F16) Bed Matrix (F17) Bed Matrix (F18) Bed Ma													
Hydric Soil Indicators:  Histics (A1) Histic Epipedon (A2) Black Histic (A3) Stripped Matrix (S6) Briting Active Matrix (A2) Briting Active Matrix (A3) Depleted Below Dark Surface (A11) Bepleted Below Dark Surface (A11) Bepleted Below Dark Surface (A12) Bandy Mucky Mineral (S1) Bed Matrix (F2) Bandy Mucky Mineral (S1) Bed Matrix (F3) Bed Matrix (F3) Bed Matrix (F3) Bed Matrix (F3) Bed Matrix (F4) Bed Matrix (F3) Bed Matrix (F4) Bed Matrix (F3) Bed Matrix (F4) Bed Matrix (F6) Bed Matrix (F7) Bed Matrix (F7) Bed Matrix (F7) Bed Matrix (F16) Bed Matrix (F7) Bed Matrix (F7) Bed Matrix (F16) Bed Matrix (F16) Bed Matrix (F17) Bed Matrix (F18) Bed Ma													
Hydric Soil Indicators:  Histics (A1) Histic Epipedon (A2) Black Histic (A3) Stripped Matrix (S6) Briting Active Matrix (A2) Briting Active Matrix (A3) Depleted Below Dark Surface (A11) Bepleted Below Dark Surface (A11) Bepleted Below Dark Surface (A12) Bandy Mucky Mineral (S1) Bed Matrix (F2) Bandy Mucky Mineral (S1) Bed Matrix (F3) Bed Matrix (F3) Bed Matrix (F3) Bed Matrix (F3) Bed Matrix (F4) Bed Matrix (F3) Bed Matrix (F4) Bed Matrix (F3) Bed Matrix (F4) Bed Matrix (F6) Bed Matrix (F7) Bed Matrix (F7) Bed Matrix (F7) Bed Matrix (F16) Bed Matrix (F7) Bed Matrix (F7) Bed Matrix (F16) Bed Matrix (F16) Bed Matrix (F17) Bed Matrix (F18) Bed Ma													
Hydric Soil Indicators:  Histics (A1) Histic Epipedon (A2) Black Histic (A3) Stripped Matrix (S6) Briting Active Matrix (A2) Briting Active Matrix (A3) Depleted Below Dark Surface (A11) Bepleted Below Dark Surface (A11) Bepleted Below Dark Surface (A12) Bandy Mucky Mineral (S1) Bed Matrix (F2) Bandy Mucky Mineral (S1) Bed Matrix (F3) Bed Matrix (F3) Bed Matrix (F3) Bed Matrix (F3) Bed Matrix (F4) Bed Matrix (F3) Bed Matrix (F4) Bed Matrix (F3) Bed Matrix (F4) Bed Matrix (F6) Bed Matrix (F7) Bed Matrix (F7) Bed Matrix (F7) Bed Matrix (F16) Bed Matrix (F7) Bed Matrix (F7) Bed Matrix (F16) Bed Matrix (F16) Bed Matrix (F17) Bed Matrix (F18) Bed Ma													
Histic ploped (A2)   Sandy Gleyed Matrix (S4)   one of Protection (A9) (LRR L, I)   one of Protection (A9) (LRR K, L, R)   one of Protection (A9) (LRR F, L)   one			= Depleti	ion, RM	= Reduc	ed Matri	x, MS =	Masked			_		
Islack Histoic (A2)	<u> </u>												
Stripped Matrix (S6)		'A O\						(S4)	Ĺ				
Hydrogen Sulfide (A4)		,							L				
Carry (As) (ARR F)							` '	al (F1)	H				
Line Muck (A9) (LRR F.G.H)	_		R F)						L		Costono (1 10) (ERR 11, Outside MERA		
Sandy Mucky Mineral (S1)					_			,	Γ		(F18)		
Sandy Mucky Mineral (S1)  2.5 cm Mucky Peat or Peat (S2) (LRR G,H)   Som Mucky Peat or Peat (S3) (LRR F)   High Plains Depressions (F8)   Som Mucky Peat or Peat (S3) (LRR F)   High Plains Depressions (F16)   MinRa 72, 73 of LRR H)   The Mind Peat (S3) (LRR F)   Mind Mineral (S1)   Check here if indicators are not present:	Depleted Below I	Dark Surf	ace (A1	1)	Rec	ox Dark	Surface	(F6)		ed Parent Mate	rial (TF2)		
Sorm Mucky Peat or Peat (S2) (LRR G,H)	. <u>—</u>	,						` '		<b>_</b> '	` ,		
Check here if indicators are not present:  Check here if indicators are not present:  Type: Depth (inches): Hydric soil present? N  Remarks: Hydric soil present? Hydric soil present?  Wetand Hydrology Indicators: Hydric soil present?  N  Secondary Indicators (minimum of two required) Surface Water (A1) Surface Water (A1) Hydrogen Sulfide Odor (C1) Dy Season Water Table (A2) Saturation (A3) Hydrogen Sulfide Odor (C1) Dy Season Water Table (C2) Oxidized Rhizospheres on Living Drift Deposits (B2) Drift Deposits (B3) Roots (not tilled) (C3) Crayfish Burrows (C8) Iton Deposits (B5) Thin Muck Surface (C7) Geomorphic Position (D2) Indudation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)  Check here if indicators are not present:  Verified Observations: Surface water present? Yes No Depth (inches): Water table prese		` '	,				,	,	, L	ther (explain in	remarks)		
Check here if indicators are not present:  Type:													
Remarks:  Hydric soils absent.  Hydric soil present? N  Hydric soil saturation present soil present surface (Cr)  In Indicators of wetland hydrology present? N  Hydric soil saturation present surface (Cr)  Hydrace soil cracks (B6)  Saturation present? N  Hydric soil saturation present surface (Cr)  Hydrace Soil Cracks (B6)  Saturation present? N  Hydric soil saturation present surface (Cr)  Geomorphic Position (D2)  Geomorphic Position (D2)  Geomorphic Position (D2)  Geomorphic Position (D2)  Hydrace soil	p cili Mucky Fea	present, unless disturbed or problematic											
Remarks: Hydric soils absent.  HYDROLOGY  Wetland Hydrology Indicators: Primary Indicators (minimum of one is required): check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Saturation (A3) Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Saturation (A3) Dry Season Water Table (C2) Sediment Deposits (B2) Oxidized Rhizospheres on Living Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Crayfish Burrows (C8) Saturation (C4) Iron Deposits (B3) Rots (not tilled) (C3) Iron Deposits (B5) Indicators are not present:  Check here if indicators are not present:  Field Observations: Surface water present? Yes No Depth (inches): Water table present? Yes No Depth (inches): Indicators of wetland hydrology present? N  Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:	Check here if indicators are not present:												
Remarks: Hydric soils absent.  HYDROLOGY  Wetland Hydrology Indicators: Primary Indicators (iminimum of one is required; check all that apply)  Surface Water (A1)  Salt Crust (B11)  Saltracion (A3)  Hydrogen Sulfide Odor (C1)  Water Marks (B1)  Dry Season Water Table (C2)  Sediment Deposits (B2)  Drift Deposits (B3)  Aquatic Fauna (B13)  Dry Season Water Table (C2)  Sediment Deposits (B3)  Roots (not tilled) (C3)  Algal Mat or Crust (B4)  Presence of Reduced Iron (C4)  Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Thin Muck Surface (C7)  Mater-Stained Leaves (B9)  The Check here if indicators are not present:  Field Observations: Surface water present?  Yes  No  Depth (inches):  Water table (P2)  Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:													
Hydric soils absent.  HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Dry Season Water Table (C2)  Sediment Deposits (B2)  Drift Deposits (B3)  Roots (not tilled) (C3)  Iron Deposits (B5)  Iron Deposits (B5)  Mater-Stained Leaves (B9)  Check here if indicators are not present:  Field Observations:  Surface Water (A1)  Surface Soil Cracks (B6)  Sparsely Vegetated Concave Surface (B8)  Drainage Patterns (B10)  Oxidized Rhizospheres on Living Roots (tilled) (C3)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (B7)  Other (Explain in Remarks)  Thin Muck Surface (C7)  Inundation Visible on Aerial Imagery (B7)  Check here if indicators are not present:  Field Observations:  Surface water present? Yes No Depth (inches):  Water table present? Yes No Depth (inches):  Indicators of wetland hydrology present? N  Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:													
### Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Dry Season Water Table (C2)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Indicator (B7)  Water-Stained Leaves (B9)  Check here if indicators are not present:  Field Observations:  Surface Water (A1)  Surface Soil Cracks (B6)  Sparsely Vegetated Concave Surface (B8)  Driinage Patterns (B10)  Doxidized Rhizospheres on Living (Itilled) (C3)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  FAC-Neutral Test (D5)  Frost-Heaved Hummocks (LRR F)  Field Observations:  Surface water present?  Yes  No  Depth (inches):  Depth (inches):  Indicators of wetland hydrology present?  N  Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:													
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Saturation (A3)  Drainage Patterns (B10)  Sediment Deposits (B2)  Oxidized Rhizospheres on Living  Roots (not tilled) (C3)  Saturation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Check here if indicators are not present:  Water present? Yes No Depth (inches):  Water table present? Yes No Depth (inches):  Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Secondary Indicators (minimum of two required)  Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Surface valified (C2)  Oxidized Rhizospheres on Living Roots (tilled) (C3)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Saturation Visible on Aerial Imagery (E7)  Saturation Visible on Aerial Imagery (E7)  Saturation Visible on Aerial Imagery (E7)  Saturation Visible on Aerial Imagery (Indicates on Cartyfish Burrows (E8)  Saturation Visible on Aerial Imagery (Indicates on Cartyfish Burrows (Indicates on Cartyfish Burrows (In	Hydric soils absent.												
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Saturation (A3)  Drainage Patterns (B10)  Sediment Deposits (B2)  Oxidized Rhizospheres on Living  Roots (not tilled) (C3)  Saturation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Check here if indicators are not present:  Water present? Yes No Depth (inches):  Water table present? Yes No Depth (inches):  Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Secondary Indicators (minimum of two required)  Secondary Indicators (minimum of two required)  Surface Soil Cracks (B6)  Surface valified (C2)  Oxidized Rhizospheres on Living Roots (tilled) (C3)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Saturation Visible on Aerial Imagery (E7)  Saturation Visible on Aerial Imagery (E7)  Saturation Visible on Aerial Imagery (E7)  Saturation Visible on Aerial Imagery (Indicates on Cartyfish Burrows (E8)  Saturation Visible on Aerial Imagery (Indicates on Cartyfish Burrows (Indicates on Cartyfish Burrows (In													
Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Aquatic Fauna (B13)  Saturation (A3)  Hydrogen Sulfide Odor (C1)  Water Marks (B1)  Dry Season Water Table (C2)  Sediment Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Check here if indicators are not present:  Field Observations:  Surface Water (A1)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Oxidized Rhizospheres on Living  (tilled) (C3)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Frost-Heaved Hummocks (LRR F)  Check here if indicators are not present:  Field Observations:  Surface water present? Yes No Depth (inches):  Water table present? Yes No Depth (inches):  Water table present? Yes No Depth (inches):  Water table present? Yes No Depth (inches):  Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:	HYDROLOGY												
Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6) High Water Table (A2) Aquatic Fauna (B13) Sparsely Vegetated Concave Surface (B8) Saturation (A3) Hydrogen Sulfide Odor (C1) Water Marks (B1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots Sediment Deposits (B3) Roots (not tilled) (C3) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)  Check here if indicators are not present:  Field Observations: Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drianage Patterns (B10) Oxidized Rhizospheres on Living Roots (tilled) (C3) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5) Frost-Heaved Hummocks (LRR F)  Field Observations: Surface water present? Yes No Depth (inches): Water table present? Yes No Depth (inches): Water table present? Yes No Depth (inches): Saturation present? Yes No Depth (inches): Saturation present? Yes No Depth (inches): Saturation present? Yes No Pepth (inches): Saturation present? Yes No Pepth (inches): Saturation present? New Indicators of wetland hydrology present	Wetland Hydrology	Indicate	ors:										
Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6) High Water Table (A2) Aquatic Fauna (B13) Sparsely Vegetated Concave Surface (B8) Saturation (A3) Hydrogen Sulfide Odor (C1) Water Marks (B1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (not tilled) (C3) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)  Check here if indicators are not present:  Field Observations: Surface water present? Yes No Depth (inches): Water table present? Yes No Depth (inches): Water table present? Yes No Depth (inches): Sediment Deposits (B10) Dry Season Water Table (C2) Oxidized Rhizospheres on Living Roots (tilled) (C3) Oxidized Rhizospheres on Living Roots (tilled) (C3) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Saturation Visible on Aerial Imagery (C9) FAC-Neutral Test (D5) Frost-Heaved Hummocks (LRR F)  Field Observations: Surface water present? Yes No Depth (inches): Indicators of wetland hydrology present? N  Remarks:  Remarks:	Primary Indicators (r	ninimum	of one	is require	ed; chec	k all that	apply)			Secondary Indi	icators (minimum of two required)		
High Water Table (A2)				-									
Saturation (A3)	I —— `	,					. ,	313)			,		
Sediment Deposits (B2)  Oxidized Rhizospheres on Living  (tilled) (C3)  Crayfish Burrows (C8)    Drift Deposits (B3)	Saturation (A3)	, ,				Hydroge	n Sulfide	e Odor (C	21)	Drainage	e Patterns (B10)		
Drift Deposits (B3) Roots (not tilled) (C3) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Frost-Heaved Hummocks (LRR F)  Check here if indicators are not present:  V  Field Observations: Surface water present? Yes No Depth (inches): Water table present? Yes No Depth (inches): Indicators of wetland hydrology present? N  Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:	Water Marks (B1	)				Dry Sea	son Wat	er Table	(C2)	Oxidized	Rhizospheres on Living Roots		
Algal Mat or Crust (B4)	Sediment Depos	its (B2)				Oxidized	d Rhizos <sub>l</sub>	pheres or	n Living	(tilled) (0	C3)		
Iron Deposits (B5)	Drift Deposits (B	3)				Roots (n	ot tilled)	(C3)					
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5)  Water-Stained Leaves (B9) Frost-Heaved Hummocks (LRR F)  Check here if indicators are not present:  Field Observations:  Surface water present? Yes No Depth (inches):  Water table present? Yes No Depth (inches):  Saturation present? Yes No Depth (inches):  (includes capillary fringe)  Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:						Presenc	e of Red	luced Iron	n (C4)		• • • • •		
Water-Stained Leaves (B9)								. ,			. ,		
Check here if indicators are not present:  Field Observations:  Surface water present? Yes No Depth (inches): Indicators of wetland Saturation present? Yes No Depth (inches): Indicators of wetland hydrology present? No Depth (inches): Saturation present? Yes No Depth (inches): No Depth (inches): Saturation present? Yes No Depth (inches): Saturation present? No Depth (inches): Saturation present? No Depth (inches): Saturation present? No Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:	_		_	ry (B7)		Other (E	xplain in	Remark	s)				
Field Observations:  Surface water present? Yes No Depth (inches):  Water table present? Yes No Depth (inches):  Saturation present? Yes No Depth (inches):  (includes capillary fringe)  Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:	Water-Stained Le	eaves (B9	9)							Frost-He	eaved Hummocks (LRR F)		
Surface water present? Yes No Depth (inches): Water table present? Yes No Depth (inches): Saturation present? Yes No Depth (inches): Indicators of wetland hydrology present? No Depth (inches): Saturation present? Yes No Depth (inches): Indicators of wetland hydrology present? N  Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:			Che	eck here	if indic	ators ar	e not p	resent:	✓				
Water table present? Yes No Depth (inches): Indicators of wetland Saturation present? Yes No Depth (inches): hydrology present? No Depth (inches): No Depth (inches): No Depth (inches): No Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:			V		NI-		Dorth /	in ah \					
Saturation present? Yes No Depth (inches): hydrology present? N (includes capillary fringe)  Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:						$\sqsubseteq$		•			liantana afatlan d		
(includes capillary fringe)  Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:		ſ		$\square$				,					
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:		inge)	res		NO	$ \checkmark $	nebtu (	incnes):		ny	urology present? N		
Remarks:									. 1 . 1		.e		
	Desc	onne reco	orued da	ata (Strea	ını gaug	e, monit	oring we	ıı, aerial	priotos	, previous inspe	cuons), ii avallable:		
Wetland hydrology indicators absent.	Remarks:												

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line) City	//County:	McLean	Sampling Date:	5/6/21
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND	Sampling Point:	14w
Investigator(s): LT/AG	Section	on, Township	, Range: S21, T14	15N, R82W
Landform (hillslope, terrace, etc.): depression	Local re	elief (concave	e, convex, none):	oncave
Slope (%): 0 Lat: 47.36966	Long:	-101.13098	34 Datum:	WGS 84
Soil Map Unit Name Williams-Bowbells loams, 0 to 3 percentage	_	NWI C	lassification:	-
Subregion (MLRA or LRR): F Are climatic/h	nydrologic cond	ditions of the	site typical for this time of the	e year? Y
Are vegetation , soil , or hydrology significantly	y disturbed?	Are "norn	nal circumstances" present?	N
	roblematic?		d, explain any answers in rer	
SUMMARY OF FINDINGS - Attach site map showing		point locat	ions, transect, importa	ant features, etc.
Hydrophytic vegetation present? Y	<del> </del>	-	within a wetland? Y	·
Hydric soil present?		•		<del>_</del>
Indicators of wetland hydrology present?				
Remarks: (Explain alternative procedures here or in a separate r	report )			
Point taken in agricultural field. Natural vegetation absent. Bound	. ,	ased on soils	and topography. Drought co	onditions are present
throughout the region, and the project area is drier than is typical			and topograping. Droagin of	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
VEGETATION - Use scientific names of plants.				
Absolute	Dominant	Indicator	Dominance Test Workshe	
Tree Stratum (Plot size: 30 ft ) % Cover		Staus	Number of Dominant Species	
1			that are OBL, FACW, or FAC	
2			Total Number of Dominan	ıt
3			Species Across all Strata	: <u> </u>
4			Percent of Dominant Species	
5	<del></del> -		that are OBL, FACW, or FAC	: <u>0.00%</u> (A/B)
Sapling/Shrub stratum / Dlot size: 15 ft	_= Total Cover	-	Prevalence Index Worksh	
Sapling/Shrub stratum (Plot size: 15 ft )			Total % Cover of:	eet
			OBL species 0 x 1	1 = 0
3			FACW species 0 x 2	
4			FAC species 0 x 3	3 = 0
5			FACU species 0 x 4	1 = 0
0	= Total Cover		UPL species 0 x 5	
Herb stratum (Plot size: 5 ft )			Column totals 0 (A)	) <u> </u>
			Prevalence Index = B/A =	
2			Hydrophytic Vegetation Ir	ndicators
			Rapid test for hydrophy	
5	<del></del> -		Dominance test is >50%	<del>-</del>
			Prevalence index is ≤3.	
7			Morphogical adaptation	ns* (provide
8			supporting data in Rem	
9			separate sheet)	
10			Problematic hydrophytic	c vegetation*
0	= Total Cover		X (explain)	
Woody vine stratum (Plot size: 30 ft )			*Indicators of hydric soil and we	
]			present, unless disturbe	a or problematic
	= Total Cover	—— I	Hydrophytic vegetation	
% Bare Ground in Herb Statum 100	13141 30161		present? Y	
Remarks: (Include photo numbers here or on a separate sheet)				
Natural vegetation absent due to agricultural activities and droug	ght conditions.	Area assume	d hydrophytic based on the r	presence of hydric
soils and wetland hydrology indicators.				

SOIL Sampling Point: 14w

	: (Desci	ribe to t	he depti	n neede	d to doo	cument	the indi	cator o	r confirm the a	bsence of indicators.)						
Matrix Mottles																
Depth (Inches)	Color	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture Remarks							
0-10	10YR	2/1	100		,	-	- 71		Loam							
10-34	10YR	2/1	95	7.5YR	4/4	5	С	М	Clay Loam							
34-37	10YR	3/1	100						Clay Loam							
37-40	10YR	4/2	95	7.5YR	4/4	5	С	М	Clay Loam							
Type: C = Concentra	tion, D =	Depleti	on, RM	= Reduc	ed Matri	x, MS =	Masked	Sand (	Grains. **Lo	cation: PL = Pore Lining, M = Matri						
Hydric Soil Indi	Hydric Soil Indicators: Indicators for Problematic Hydric Soils:															
Histisol (A1)					dy Gleye		(S4)		cm Muck (A9)							
Histic Epipedon (	A2)				dy Redo					dox (A16) (LRR K, L, R)						
Black Histic (A3)	(A 4)				oped Mat		1 (54)	L	ark Surface (S7							
Hydrogen Sulfide		\ <b>-</b> \			my Muck my Gleye	•	` '	L		essions (F16) (LRR H, outside MLRA						
Stratified Layers				_			. (FZ)	Г	72,73)	(F18)						
1 cm Muck (A9) (LRR F,G,H)  Depleted Below Dark Surface (A11)  Redox Dark Surface (F6)  Peduced Vertic (F18)  ed Parent Material (TF2)																
Thick Dark Surface (A12)  Depleted Dark Surface (F7)  Pery Shallow Dark Surface (TF12)																
Sandy Mucky Mir	, ,	)			lox Depre		` '	Ī	ther (explain in	` ,						
2.5 cm Mucky Pe	2.5 cm Mucky Peat or Peat (S2) (LRR G,H) High Plains Depressions (F16)															
5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72, 73 of LRR H) *Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic																
		Ch	eck her	e if indi	cators a	re not p	resent:		ргоотк, с	mices dictarbed or problematic						
Restrictive Layer (in	Check here if indicators are not present:  Restrictive Layer (if observed):															
Type: Depth (inches): Hydric soil present?Y																
Remarks:																
Hydric soils present.																
, ,																
HYDROLOGY						HADBOT OCA										
Wetland Hydrology	Indiant															
Primary Indicators (r	<u>ninimum</u>		s require	ed; chec	k all that	apply)				icators (minimum of two required)						
Surface Water (A	<u>ninimum</u> 1)		s require	ed; chec	Salt Cru	st (B11)			Surface	Soil Cracks (B6)						
Surface Water (A	<u>ninimum</u> 1)		s require	ed; chec	Salt Cru Aquatic	st (B11) Fauna (E	,		Surface Sparse	Soil Cracks (B6) ly Vegetated Concave Surface (B8)						
Surface Water (A High Water Table Saturation (A3)	ninimum 1) : (A2)		s require	ed; chec	Salt Cru Aquatic Hydroge	st (B11) Fauna (E en Sulfide	odor (C	,	Surface Sparse Drainag	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10)						
Surface Water (A High Water Table Saturation (A3) Water Marks (B1)	ninimum 1) (A2)		s require	ed; chec	Salt Cru Aquatic Hydroge Dry Sea	st (B11) Fauna (E en Sulfide son Wat	e Odor (C er Table	(C2)	Surface Sparse Drainag Oxidized	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots						
Surface Water (A High Water Table Saturation (A3) Water Marks (B1) Sediment Deposi	ninimum 1) (A2) ) ts (B2)		s require	ed; chec	Salt Cru Aquatic Hydroge Dry Sea Oxidized	st (B11) Fauna (E en Sulfide son Wat d Rhizosp	e Odor (C er Table oheres or	(C2)	Surface Sparse Drainag Oxidized	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3)						
Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposi Drift Deposits (B3	ninimum 1) (A2) (M2) ts (B2)		s require	ed; chec	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r	st (B11) Fauna (Een Sulfide son Wate d Rhizosp not tilled)	e Odor (Cer Table otheres or (C3)	(C2) n Living	Surface Sparse Drainag Oxidized (tilled) ((	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8)						
Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposi Drift Deposits (B3 Algal Mat or Crus	ninimum 1) (A2) ts (B2) tts (B2) t (B4)		s require	ed; chec	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presenc	st (B11) Fauna (Een Sulfide son Wate d Rhizosp not tilled) ee of Red	e Odor (Cer Table oheres or (C3) uced Iron	(C2) n Living	Surface Sparse Drainag Oxidized (tilled) (( Crayfish	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9)						
Surface Water (A High Water Table Saturation (A3) Water Marks (B1) Sediment Deposi Drift Deposits (B3) Algal Mat or Crus Iron Deposits (B5)	ninimum 1) (A2) ts (B2) (B3) t (B4)	of one i		ed; chec	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presence Thin Mu	st (B11) Fauna (En Sulfide son Wate d Rhizosp tot tilled) e of Red ck Surfa	e Odor (Cer Table oheres or (C3) uced Iron (C7)	(C2) n Living n (C4)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)						
Surface Water (A High Water Table Saturation (A3) Water Marks (B1) Sediment Deposi Drift Deposits (B3) Algal Mat or Crus Iron Deposits (B5)	ninimum 1) (A2) ) (ts (B2) 3) t (B4) ) e on Aeria	of one i		ed; chec	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presence Thin Mu	st (B11) Fauna (En Sulfide son Wate d Rhizosp tot tilled) e of Red ck Surfa	e Odor (Cer Table oheres or (C3) uced Iron	(C2) n Living n (C4)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)						
Surface Water (A High Water Table Saturation (A3) Water Marks (B1) Sediment Deposi Drift Deposits (B3) Algal Mat or Crus Iron Deposits (B5)	ninimum 1) (A2) ) (ts (B2) 3) t (B4) ) e on Aeria	of one i	ry (B7)		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (Een Sulfiderson Water (B120) All Rhizosparent tilled) All Re of Red All Surfact (Surfact)	e Odor (C er Table pheres or (C3) uced Iror ce (C7) Remark	(C2) n Living n (C4)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)						
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Surface Water (A High Water Table Saturation (A3) Water Marks (B1) Sediment Deposit Drift Deposits (B3) Algal Mat or Crus Iron Deposits (B5) Inundation Visible Water-Stained Le  Field Observations Surface water present Saturation present?	ninimum  1) (A2)  ts (B2)  t (B4) ) e on Aeric eaves (B9)	al Image  Cho	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat I Rhizosp ot tilled) e of Red ck Surfa explain in  Depth (i Depth (i	e Odor (Cer Table beheres or (C3) ucced Iron ce (C7) Remark resent:	(C2) n Living n (C4)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)						
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Surface Water (A High Water Table Saturation (A3) Water Marks (B1) Sediment Deposit Drift Deposits (B3) Algal Mat or Crus Iron Deposits (B5) Inundation Visible Water-Stained Le  Field Observations Surface water present Saturation present? (includes capillary fri	ninimum  1) (A2) (A2) (A2) (A3) (B4) (B4) (B4) (CA) (CA) (CA) (CA) (CA) (CA) (CA) (CA	al Image  Che  Yes  Yes  Yes	ry (B7) eck here	if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E n Sulfide son Wat d Rhizosp ot tilled) e of Red ck Surfa explain in Te not pi Depth (i Depth (i	e Odor (Cer Table bheres or (C3) uced Iror (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (0 Crayfish Saturati Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)						
Surface Water (A High Water Table Saturation (A3) Water Marks (B1) Sediment Deposi Drift Deposits (B3) Algal Mat or Crus Iron Deposits (B5) Inundation Visible Water-Stained Le  Field Observations Surface water present Saturation present? (includes capillary fri	ninimum  1) (A2) (A2) (A2) (A3) (B4) (B4) (B4) (CA) (CA) (CA) (CA) (CA) (CA) (CA) (CA	al Image  Che  Yes  Yes  Yes	ry (B7) eck here	if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E n Sulfide son Wat d Rhizosp ot tilled) e of Red ck Surfa explain in Te not pi Depth (i Depth (i	e Odor (Cer Table bheres or (C3) uced Iror (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (0 Crayfish Saturati Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)						
Surface Water (A High Water Table Saturation (A3) Water Marks (B1) Sediment Deposit Drift Deposits (B3) Algal Mat or Crus Iron Deposits (B5) Inundation Visible Water-Stained Le  Field Observations Surface water present Saturation present? (includes capillary fri	ninimum  1) (A2) (A2) (A2) (A3) (B4) (B4) (A4) (A4) (A4) (A4) (A4) (A4) (A4) (A	al Image (i)  Che  Yes  Yes  Yes  Yes  Orded da	ry (B7)  eck here	if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E n Sulfide son Wat d Rhizosp ot tilled) e of Red ck Surfa explain in Te not pi Depth (i Depth (i	e Odor (Cer Table bheres or (C3) uced Iror (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (0 Crayfish Saturati Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)						

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line) City/	County: Mc	Lean Sampling Date	e: 5/6/21
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND Sampling Point	t: 15u
Investigator(s): LT/AG	Section, Tow	/nship, Range: S20,	T145N, R82W
Landform (hillslope, terrace, etc.): toeslope	Local relief (co	oncave, convex, none):	convex
Slope (%): 3 Lat: 47.369925	 Long:101.	.154621 Datum:	WGS 84
Soil Map Unit Name Williams-Bowbells loams, 3 to 6 perce	ent slopes N	NWI Classification:	-
Subregion (MLRA or LRR): F Are climatic/hy	drologic conditions o	of the site typical for this time of	of the year? Y
Are vegetation , soil , or hydrology significantly	disturbed? Are	"normal circumstances" pres	ent? Y
Are vegetation , soil , or hydrology naturally pro	oblematic? (If n	needed, explain any answers i	n remarks.)
SUMMARY OF FINDINGS - Attach site map showing	sampling point l	locations, transect, impe	ortant features, etc.
Hydrophytic vegetation present? N	Is the sampled	l area within a wetland?	N
Hydric soil present?		_	
Indicators of wetland hydrology present?			
Remarks: (Explain alternative procedures here or in a separate re	port.)		
	. ,		
VEGETATION - Use scientific names of plants.			
Absolute	Dominant Indicat	tor Dominance Test World	ksheet
<u>Tree Stratum</u> (Plot size:30 ft) % Cover	Species Staus	s Number of Dominant Sp	ecies
1		that are OBL, FACW, or	FAC: 0 (A)
2		Total Number of Dom	
3		Species Across all S	``
5		Percent of Dominant Sp that are OBL, FACW, or	
	= Total Cover	— Ithat are OBE, I AOW, or	(A/B)
Sapling/Shrub stratum (Plot size: 15 ft )		Prevalence Index Wo	rksheet
1		Total % Cover of:	
2		OBL species 0	x 1 = 0
3		FACW species 0	x 2 = 0
		FAC species 0	x 3 = 0
5	= Total Cover	FACU species 0	$\begin{array}{ccc} x & 4 & = & 0 \\ x & 5 & = & 250 \end{array}$
Herb stratum (Plot size: 5 ft )	= Total Cover	UPL species 50 Column totals 50	-x5 = 250 (A) 250 (B)
1 Bromus inermis 50	Y UPL		_ ` ` ` `
2		_	
3		Hydrophytic Vegetation	on Indicators:
4		Rapid test for hydro	ophytic vegetation
5		Dominance test is	
6		Prevalence index is	
8		Morphogical adapta	
9		supporting data in separate sheet)	Remarks of on a
10		Problematic hydror	ohytic vegetation*
	= Total Cover	(explain)	onjue regetation
Woody vine stratum (Plot size: 30 ft )		*Indicators of hydric soil ar	nd wetland hydrology must be
1		•	sturbed or problematic
2		Hydrophytic	
0 % Bare Ground in Herb Statum 50	= Total Cover	vegetation present?	N
Remarks: (Include photo numbers here or on a separate sheet)		present:	
Upland vegetation dominates.			

SOIL Sampling Point: 15u

Profile Description	: (Desci	ribe to t	he dept	h neede	d to do	cument	the indi	cator o	r confirm the a	bsence of indicators.)	
		Matrix				Mottles					
Depth (Inches)	Color (	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks	
0-18	10YR	2/1	100	00101	(moiot)	70	1 9 00		Loam	Romano	
18-25	10YR	5/1	100						Clay Loam		
.0 20		0, .							0.4, 204		
Type: C = Concentra	tion, D =	Depleti	on, RM	= Reduc	ed Matri	x, MS =	Masked	Sand (	Grains. **Lo	cation: PL = Pore Lining, M = Matri:	
Hydric Soil Indi						,				Problematic Hydric Soils:	
Histisol (A1)				San	dy Gleye	ed Matrix	(S4)	Г	cm Muck (A9)	_	
Histic Epipedon (A2) Sandy Redox (S5) Oast Prairie Redox (A16) (LRR K, L, R)											
Black Histic (A3)					oped Ma	. ,			ark Surface (S7		
Hydrogen Sulfide	` '				my Muck	•	` '			ressions (F16) (LRR H, outside MLRA	
Stratified Layers					my Gleye			Г	72,73)	/E18\	
1 cm Muck (A9) (LRR F,G,H) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Depleted Watrix (F3) Depleted Matrix (F3) Depleted											
Depleted Below Bark Surface (A11)   Redox Bark Surface (F6)   Jery Shallow Dark Surface (TF12)											
Sandy Mucky Mineral (S1)  Redox Depressions (F8)  ther (explain in remarks)											
2.5 cm Mucky Peat or Peat (S2) (LRR G,H) High Plains Depressions (F16)											
5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72, 73 of LRR H)  *Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic											
		Ch	eck her	e if indi	cators a	re not p	resent:	<b>V</b>	prooring	annos distarbed of preprentation	
Check here if indicators are not present:  Restrictive Layer (if observed):											
Type: Depth (inches): Hydric soil present? N											
Remarks:			,			,					
Hydric soils absent.											
,											
HYDROLOGY											
Wetland Hydrology	Indicat	ors:									
Primary Indicators (r	<u>minimum</u>	of one	<u>is require</u>	ed; chec	k all that	apply)				icators (minimum of two required)	
Surface Water (A	.1)				L	st (B11)				Soil Cracks (B6)	
High Water Table	e (A2)					Fauna (E				ely Vegetated Concave Surface (B8)	
Saturation (A3)							e Odor (C	,	= -	e Patterns (B10)	
Water Marks (B1	,						er Table	. ,		d Rhizospheres on Living Roots	
Sediment Deposi	. ,						pheres or	n Living		-	
Drift Deposits (B3						not tilled)	. ,	- (04)		Burrows (C8)	
Algal Mat or Crus					:		luced Iron	n (C4)		on Visible on Aerial Imagery (C9)	
Iron Deposits (B5		al Imaga	ry (P7)			ck Surfa	ce (C7) ı Remark	c)	_	phic Position (D2) autral Test (D5)	
Water-Stained Le		Ū	ту (Бт)		JOulei (E	хріані ін	Remark	5)		eaved Hummocks (LRR F)	
	aves (De		aals bass	الا الماام	-1			<b>-</b>		caved Hammooks (ETTT)	
Field Observations		Cne	eck here	e it inaic	ators ar	e not p	resent:	Ľ			
Surface water prese		Yes		No		Depth (	inches):				
Water table present?		Yes	H	No			inches):		Inc	licators of wetland	
Saturation present?		Yes	H	No	H		inches):			/drology present? N	
(includes capillary fri	inge)				ت	1 (	/-				
		orded da	ata (strea	am gaug	e. monit	orina we	ell. aerial	photos	, previous inspe	ctions), if available:	
2000			(51.50	3449	_,		, 251101	٥ت	,		
D											
Remarks:											
Wetland hydrology ir	idicators	apsent									

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line) City/	/County:	McLean	Sampling Date: 5/6/21
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND	Sampling Point: 15w
Investigator(s): LT/AG	Section	on, Township	o, Range: S20, T145N, R82W
Landform (hillslope, terrace, etc.): depression	Local re	elief (concav	re, convex, none): concave
Slope (%): 1 Lat: 47.369851	Long:	-101.1547	71 Datum: WGS 84
Soil Map Unit Name Williams-Bowbells loams, 3 to 6 percentage	ent slopes	NWI (	Classification: -
Subregion (MLRA or LRR): F Are climatic/h	ydrologic cond	ditions of the	site typical for this time of the year?
Are vegetation, soil, or hydrology significantly	/ disturbed?	Are "nor	mal circumstances" present? Y
Are vegetation , soil , or hydrology naturally pr	oblematic?	(If neede	ed, explain any answers in remarks.)
SUMMARY OF FINDINGS - Attach site map showing	g sampling	point loca	tions, transect, important features, etc.
Hydrophytic vegetation present? Y	Is the sa	ampled area	a within a wetland? Y
Hydric soil present? Y			
Indicators of wetland hydrology present? Y			
Remarks: (Explain alternative procedures here or in a separate re	eport.)		
VEGETATION - Use scientific names of plants.			
Absolute	Dominant	Indicator	Dominance Test Worksheet
<u>Tree Stratum</u> (Plot size: <u>30 ft</u> ) % Cover	Species	Staus	Number of Dominant Species
			that are OBL, FACW, or FAC: 1 (A)
2			Total Number of Dominant
3	· ——		Species Across all Strata: 1 (B)
5	· ——		Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)
	= Total Cover		(,42)
Sapling/Shrub stratum (Plot size: 15 ft )			Prevalence Index Worksheet
1			Total % Cover of:
2			OBL species0 x 1 =0
3			FACW species 100 x 2 = 200
	· ——		FAC species 0 x 3 = 0 FACU species 0 x 4 = 0
	= Total Cover	<del></del> -	UPL species 0 x 5 = 0
Herb stratum (Plot size: 5 ft )	•		Column totals 100 (A) 200 (B)
1 Spartina pectinata 100	Υ	FACW	Prevalence Index = $B/A = 2.00$
2			
3			Hydrophytic Vegetation Indicators:
			Rapid test for hydrophytic vegetation
5	· ——		X Dominance test is >50% X Prevalence index is ≤3.0*
7	· ——		
8	•		Morphogical adaptations* (provide supporting data in Remarks or on a
9	. ——		separate sheet)
10			Problematic hydrophytic vegetation*
100	= Total Cover		(explain)
Woody vine stratum (Plot size: 30 ft )			*Indicators of hydric soil and wetland hydrology must be
1			present, unless disturbed or problematic
	= Total Cover		Hydrophytic vegetation
% Bare Ground in Herb Statum0	. 5.41 50161		present? Y_
Remarks: (Include photo numbers here or on a separate sheet)			
Hydrophytic vegetation dominates.			

SOIL Sampling Point: 15w

Profile Description	: (Desc	ribe to t	he dept	h neede	d to do	cument	the indi	cator o	r confirm the a	bsence of indicators.)		
Matrix Mottles									-			
Depth (Inches)	Color	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks		
0-9	10YR	2/1	100		,		7'		Loam			
9-20	10YR	3/1	100						Clay Loam			
Type: C = Concentra		= Depleti	on, RM	= Reduc	ed Matri	x, MS =	Masked			cation: PL = Pore Lining, M = Matri		
Hydric Soil Indicators: Indicators for Problematic Hydric Soils:												
Histisol (A1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Cm Muck (A9) (LRR I,J) Oast Prairie Redox (A16) (LRR K, L, R)												
Black Histic (A3)	,				oped Ma			L	ark Surface (S			
Hydrogen Sulfide					my Muck	. ,	al (F1)	-		ressions (F16) (LRR H, outside MLRA		
Stratified Layers	. ,	R F)			my Gley			L		COSIONS (1 10) (LIKK II, Outside MLKA		
1 cm Muck (A9) (					leted Ma				educed Vertic	(F18)		
Depleted Below [	Dark Surf	ace (A1	1)	Red	lox Dark	Surface	(F6)		ed Parent Mate	erial (TF2)		
Thick Dark Surfa	,				leted Da		` '		<b>_</b> '	rk Surface (TF12)		
Sandy Mucky Mir					lox Depre	,	,	. L	ther (explain in	remarks)		
2.5 cm Mucky Pe 5 cm Mucky Pear					n Plains <b>RA 72, 73</b>		ions (F16		ndicators of hydrophy	tic vegetation and weltand hydrology must be		
p cili Mucky Fea	l OI Feat									unless disturbed or problematic		
Check here if indicators are not present:												
Restrictive Layer (if observed):												
	Type: Depth (inches): Hydric soil present?Y											
Remarks:												
Hydric soils present.												
HYDROLOGY												
Wetland Hydrology	Indicat	ors:										
Primary Indicators (r	ninimum	of one	s require	ed; chec	k all that	apply)			Secondary Ind	icators (minimum of two required)		
Surface Water (A			-			st (B11)				Soil Cracks (B6)		
High Water Table	,				Aquatic	. ,			_	ely Vegetated Concave Surface (B8)		
Saturation (A3)	. ,				Hydroge	en Sulfide	e Odor (C	21)	Drainag	e Patterns (B10)		
Water Marks (B1	)				Dry Sea	son Wat	er Table	(C2)	Oxidized	d Rhizospheres on Living Roots		
Sediment Deposi	its (B2)				Oxidized	d Rhizos	pheres o	n Living	(tilled) (	C3)		
Drift Deposits (B3	3)				Roots (r	not tilled)	(C3)			Burrows (C8)		
Algal Mat or Crus					Presenc	e of Red	luced Iro	n (C4)	Saturati	on Visible on Aerial Imagery (C9)		
Iron Deposits (B5				L	=	ck Surfa	. ,			phic Position (D2)		
Inundation Visible		_	ry (B7)	L	Other (E	explain in	Remark	s)		eutral Test (D5)		
Water-Stained Le	eaves (B	9)							Frost-He	eaved Hummocks (LRR F)		
		Che	eck here	if indic	ators a	re not p	resent:	L				
Field Observations		V-		K1.		Da-41 /	in al \					
Surface water prese		Yes	Н	No	$\square$		inches):			linetown of wetlend		
Water table present' Saturation present?	?	Yes	Н	No			inches):			licators of wetland /drology present? Y		
(includes capillary fr	inge)	Yes	Ш	No	$\checkmark$	Deptii (	inches):		"'	drology present?		
-		ordod d	nta latra	om gour	o monit	oring wa	all corici	nhotos	previous isses	ctions), if available:		
Desc	Silve rec	orueu da	ata (SII e	am gaug	e, monit	oring we	n, aenal	priotos	, previous irispe	olions), ii avaliable.		
Remarks:												
Wetland hydrology i	ndicators	s presen	Ι.									

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line) City/C	County:	McLean	Sampling Date:	8/6/2021
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND	Sampling Point:	17u
Investigator(s): LT/AG	Sectio	n, Townshiր	o, Range: S21, T14	45N, R82W
Landform (hillslope, terrace, etc.): hillslope	Local re	elief (concav	re, convex, none):	convex
Slope (%): 2 Lat: 47.370087	Long:	-101.1410	09 Datum:	WGS 84
Soil Map Unit Name Bowbells loam, 0 to 3 percent slop	pes	NWI	Classification:	-
Subregion (MLRA or LRR): F Are climatic/hyd	drologic cond	litions of the	site typical for this time of th	e year? Y
Are vegetation $\  \  \  \  \  \  \  \  \  \  \  \  \ $	disturbed?	Are "nor	mal circumstances" present?	? <u>Y</u>
Are vegetation $\  \  \  \  \  \  \  \  \  \  \  \  \ $	blematic?	(If neede	ed, explain any answers in re	marks.)
SUMMARY OF FINDINGS - Attach site map showing	sampling բ	point loca	tions, transect, importa	ant features, etc.
Hydrophytic vegetation present? N	Is the sa	impled area	a within a wetland?	<u> </u>
Hydric soil present? N				
Indicators of wetland hydrology present? N				
Remarks: (Explain alternative procedures here or in a separate rep	oort.)			
Point taken in agricultural field. Natural vegetation absent. Bounda			s and topography. Drought c	onditions are present
throughout the region, and the project area is drier than is typical a	t this time of	year.		
VEGETATION - Use scientific names of plants.				
Absolute	Dominant	Indicator	Dominance Test Workshop	eet
<u>Tree Stratum</u> (Plot size: <u>30 ft</u> ) % Cover	Species	Staus	Number of Dominant Specie	
1			that are OBL, FACW, or FAC	C: 0 (A)
2			Total Number of Dominar	
3			Species Across all Strata	``,
5	<del></del> -		Percent of Dominant Specie that are OBL, FACW, or FAC	
	Total Cover			(7,72)
Sapling/Shrub stratum (Plot size: 15 ft )			Prevalence Index Worksh	neet
1			Total % Cover of:	
2			· —	1 = 0
3			·	2 = 0
			· —	3 = 0
	Total Cover			4 = <u>0</u> 5 = 0
Herb stratum (Plot size: 5 ft )	· Total Covel		Column totals 0 (A	
1			Prevalence Index = B/A =	(2)
2				
3			Hydrophytic Vegetation I	ndicators:
4			Rapid test for hydrophy	-
5			Dominance test is >50	
6			Prevalence index is ≤3	
8			Morphogical adaptation	
9			supporting data in Ren separate sheet)	narks or on a
10	<del></del>		Problematic hydrophyt	ic vegetation*
	Total Cover		(explain)	.o rogetation
Woody vine stratum (Plot size: 30 ft )			*Indicators of hydric soil and we	etland hydrology must be
1			present, unless disturbe	
2			Hydrophytic	
0 = % Bare Ground in Herb Statum 100	Total Cover		vegetation present? N	
Remarks: (Include photo numbers here or on a separate sheet)			present? N	_
Natural vegetation absent. Area assumed upland based on the lac	k of hydric so	oils and wetl	and hydrology indicators.	

SOIL Sampling Point: 17u

Profile Description	: (Desc	ribe to t	he dept	h neede	d to do	cument	the indi	cator o	or confirm the a	bsence of indicators.)
	Matrix Mottles							·		
Depth (Inches)	Color (	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks
0-18	10YR	4/3	100	00.00	(1110101)	1 /-	1315-		Clay loam	T Contains
18-20	10YR	3/2	100		<del>                                     </del>	1			Clay loam	
20-30	10YR	4/3	100						Clay	
									- ,	
					<u> </u>	1				
Type: C = Concentra	ation, D =	- Depleti	ion, RM	= Reduc	ed Matr	ix, MS =	Masked	Sand	Grains. **Lo	cation: PL = Pore Lining, M = Matri
Hydric Soil Indi	icators:	-								Problematic Hydric Soils:
Histisol (A1)				Sar	ıdy Gleye	ed Matrix	(S4)		cm Muck (A9)	(LRR I,J)
Histic Epipedon (					ndy Redo	` '		[		dox (A16) (LRR K, L, R)
Black Histic (A3)					pped Ma			_	ark Surface (S	
Hydrogen Sulfide	. ,	_			,	ky Minera	` '	L		ressions (F16) (LRR H, outside MLRA
Stratified Layers						ed Matrix	(F2)	г	72,73)	/F10\
1 cm Muck (A9) ( Depleted Below I			1)			atrix (F3) Surface	(E6)	-	educed Vertic ed Parent Mate	` '
Thick Dark Surfa		ace (AT	1)			ark Surface	` '	<u> </u>		rk Surface (TF12)
Sandy Mucky Mir	, ,	)				essions (	` '	r	ther (explain in	` ,
2.5 cm Mucky Pe			RR G,H)	_				s)		,
5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72, 73 of LRR H) *Indicators of hydrophytic vegetation and weltand hydrology must be										
		Ch	eck her	e if indi	cators a	are not r	resent:	$\sqrt{}$	present, t	unless disturbed or problematic
Check here if indicators are not present:   Restrictive Layer (if observed):										
Type: Depth (inches): Hydric soil present? N										
Remarks:			<u> </u>					-	•	
Hydric soil indicators	e abcont									
riyunc son mulcators	s absent.									
HYDROLOGY										
Wetland Hydrology	/ Indicate	ors:								
Primary Indicators (r	<u>minimum</u>	of one i	is require	ed; chec	k all that	t apply)			Secondary Ind	icators (minimum of two required)
Surface Water (A	<b>\1</b> )				7	ust (B11)				Soil Cracks (B6)
High Water Table	∍ (A2)				Aquatic	Fauna (E	313)		Sparse	ely Vegetated Concave Surface (B8)
Saturation (A3)						en Sulfide	•	•	Drainag	e Patterns (B10)
Water Marks (B1	•				= -	ason Wat				d Rhizospheres on Living Roots
Sediment Deposi	` '			L	_	d Rhizos	•	n Living		
Drift Deposits (B3				_		not tilled)				Burrows (C8)
Algal Mat or Crus				L		ce of Red		n (C4)	=	on Visible on Aerial Imagery (C9)
Iron Deposits (B5			(= -\)	L	=	uck Surfa			=	rphic Position (D2)
Inundation Visible			ry (B7)		JOther (E	Explain in	Remark	s)		eutral Test (D5)
Water-Stained Le	eaves (BS	,							Frost-He	eaved Hummocks (LRR F)
E: 1101		Che	eck here	if indic	ators a	re not p	resent:	✓		
Field Observations		Vaa		Na		Donth /	ا معامعا،			
Surface water prese		Yes	Н	No			inches):		lne	licators of wetland
Water table present? Saturation present?	•	Yes Yes	H	No No	<b>✓</b>		inches): inches):			/drology present? N
(includes capillary fr	inge)	165		NO	<b>√</b>	Deptil (	inches).		"'	drology present?
		ordod de	oto (otro		o monit	toring we	ll coriol	nhotoo	nrovious inche	estions) if evailable:
Desc	inbe reco	oraea aa	ila (sirea	ım gaug	e, monit	loring we	n, aenai	priotos	s, previous inspe	ections), if available:
Remarks:										
Wetland hydrology in	ndicators	absent								

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line)	City/County:	McLean	Sampling Date: 8/6/2021			
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND	Sampling Point:	17w		
Investigator(s): LT/AG	Section	on, Township, R	ange: S21, T1	45N, R82W		
Landform (hillslope, terrace, etc.): depression	Local r	elief (concave, c	convex, none):	concave		
Slope (%): 2 Lat: 47.370077	Long:	-101.141387	Datum:	WGS 84		
Soil Map Unit Name Bowbells loam, 0 to 3 perc	ent slopes	NWI Clas	ssification:	PEM1C		
Subregion (MLRA or LRR): F Are clim	natic/hydrologic cond	—— ditions of the site	e typical for this time of th	he year? Y		
Are vegetation , soil , or hydrology signifi	icantly disturbed?	Are "normal	circumstances" present	? N		
	ally problematic?		explain any answers in re			
SUMMARY OF FINDINGS - Attach site map sho		point locatio	ns, transect, import	ant features, etc.		
Hydrophytic vegetation present? Y		-		Y		
Hydric soil present? Y				<del></del>		
Indicators of wetland hydrology present?						
Remarks: (Explain alternative procedures here or in a sepa	rate report )					
Point taken in agricutural field. Boundary mapped based on	. ,	hv. Drought con	ditions are present throu	ahout the region, and		
the project area is drier than is typical at this time of year.	p - <b>9</b> p	,g		g,		
VEGETATION - Use scientific names of plants.						
	solute Dominant	Indicator D	ominance Test Worksh	 leet		
	Cover Species	01	umber of Dominant Specie			
1			at are OBL, FACW, or FA			
2			Total Number of Domina	nt		
3			Species Across all Strat	a: 0 (B)		
			ercent of Dominant Specie			
5	O - T-1-1 O		at are OBL, FACW, or FA	C: 0.00% (A/B)		
Sapling/Shrub stratum (Plot size: 15 ft )	0 = Total Cover		revalence Index Works	hoot		
1			otal % Cover of:	neet		
2				1 = 0		
3			· —	2 = 0		
4		F.	AC species 0 x	3 = 0		
5				4 = 0		
<u></u>	0 = Total Cover		· —	5 = 0		
Herb stratum (Plot size: 5 ft )				A) <u>0</u> (B)		
		<sup>P</sup>	revalence Index = B/A =			
		—— H	ydrophytic Vegetation	Indicators:		
4		——   ''	Rapid test for hydroph			
5			Dominance test is >50	-		
6			— Prevalence index is ≤3	3.0*		
7			— Morphogical adaptatio	ons* (provide		
8			supporting data in Rer			
9			separate sheet)			
10			Problematic hydrophy	tic vegetation*		
<u></u>	0 = Total Cover	`   <u>-</u>	(explain)			
Woody vine stratum (Plot size: 30 ft )		,	Indicators of hydric soil and w present, unless disturb			
			Hydrophytic	ed of problematic		
	0 = Total Cover		vegetation			
% Bare Ground in Herb Statum100			present? Y			
Remarks: (Include photo numbers here or on a separate sh	-					
Natural vegetation absent due to agricultural activities and o	drought conditions.	Area assumed v	vetland based on the pre	sence of hydric soils		
and wetland hydrology indicators.						

SOIL Sampling Point: 17w

<b>Profile Description</b>	: (Desc	ribe to t	he dept	h neede	d to do	cument	the indi	cator c	or confirm the a	bsence of indicators.)	
		Matrix				Mottles					
Depth (Inches)	Color	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks	
0-12	10YR	2/1	95	10YR	4/6	5	C	М	Loam		
12-20	10YR	4/3	100						Loam		
						<u> </u>					
- 0 0	<u> </u>				134.6		<u> </u>				
Type: C = Concentra		= Depleti	ion, KIVI	= Reduc	ed Matr	ix, MS =	Masked			cation: PL = Pore Lining, M = Matri	
Hydric Soil Indi	icators:			□ kar	- 4: Clov	- d Matrix	(64)	Г		Problematic Hydric Soils:	
Histisol (A1) Histic Epipedon (	(42)				ndy Gleye ndy Redo	ed Matrix ox (S5)	((54)	L	cm Muck (A9)	(LRR I,J) dox (A16) (LRR K, L, R)	
Black Histic (A3)					pped Ma			ļ	ark Surface (S		
Hydrogen Sulfide				Loa	my Mucl	ky Minera	` '			ressions (F16) (LRR H, outside MLRA	
Stratified Layers	. , .	•		_		ed Matrix	. ,	_	72,73)		
1 cm Muck (A9) ( Depleted Below I			4\			atrix (F3) Surface		-	educed Vertic ed Parent Mate		
Thick Dark Surfa			1)			ark Surface	` '	Į [		rk Surface (TF12)	
Sandy Mucky Mir	, ,					essions (	` ,	Ì	ther (explain in		
2.5 cm Mucky Pe	eat or Pea	, at (S2) <b>(L</b>		Hig	h Plains	Depress	ions (F16			,	
5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72, 73 of LRR H) *Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic											
			eck her	e if indi	cators a	are not p	oresent:			411000 416141,204 4. p.	
Check here if indicators are not present:  Restrictive Layer (if observed):											
Type:											
Remarks:											
Hydric soil indicators	s presen	t.									
HYDROLOGY											
Wetland Hydrology	/ Indicat	ors:									
Primary Indicators (r			is require	ed: chec	k all tha	t apply)			Secondary Ind	icators (minimum of two required)	
Surface Water (A		1010	10 10 45	<u>Ju, c</u>		ust (B11)				Soil Cracks (B6)	
High Water Table	,			\ <u></u>	4	: Fauna (I				ely Vegetated Concave Surface (B8)	
Saturation (A3)	- (				= '	en Sulfide		C1)		e Patterns (B10)	
Water Marks (B1					Dry Sea	ason Wat	ter Table	(C2)		d Rhizospheres on Living Roots	
Sediment Deposi	. ,					d Rhizos	•	n Living		•	
Drift Deposits (B3				_	_ `	not tilled)	. ,	(5.A)		Burrows (C8)	
Algal Mat or Crus				F	=	ce of Rec		n (C4)		on Visible on Aerial Imagery (C9)	
Iron Deposits (B5		al Image	·~. (D7)	F	=	uck Surfa Evolain in	. ,	-1	=	rphic Position (D2)	
Water-Stained Le		U	Гу (Бт)		JOther (c	Explain ir	1 Remain	(S)		eutral Test (D5) eaved Hummocks (LRR F)	
	saves (Do		ask bore	if indic	ofore a	not n	=acant:			saved Hullimooks (ERRY)	
Field Observations	<u> </u>	Cit	eck here	) II IIIuic	aturs a	re not b	resem.				
Surface water prese		Yes		No	<b>7</b>	Depth (	(inches):				
Water table present		Yes	H	No			inches):		Inc	dicators of wetland	
Saturation present?		Yes		No	V		inches):			ydrology present? Y	
(includes capillary fr	inge)										
Desc	cribe rec	orded da	ata (strea	am gaug	je, monit	toring we	ell, aerial	photos	s, previous inspe	ctions), if available:	
Remarks:											
Wetland hydrology is	ndicators	s presen	ıt.								
, ,		'									

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line) City/	County:	McLear	Sampling Date:	8/6/2021
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND	Sampling Point:	18u
Investigator(s): LT/AG	Secti	on, Townshi <sub>l</sub>	o, Range: S24, T1	45N, R82W
Landform (hillslope, terrace, etc.): hillslope	Local r	elief (concav	ve, convex, none):	convex
Slope (%): 3 Lat: 47.370807	Long:	-101.0776	82 Datum:	WGS 84
Soil Map Unit Name Williams-Niobell loams, 0 to 3 percent	nt slopes	NWI	Classification:	-
Subregion (MLRA or LRR): F Are climatic/h	ydrologic con	ditions of the	site typical for this time of the	ne year? Y
Are vegetation , soil , or hydrology significantly	disturbed?	Are "nor	mal circumstances" present	? <u>Y</u>
Are vegetation $\  \  \  \  \  \  \  \  \  \  \  \  \ $	oblematic?	(If neede	ed, explain any answers in re	emarks.)
SUMMARY OF FINDINGS - Attach site map showing	sampling	point loca	tions, transect, import	ant features, etc.
Hydrophytic vegetation present? N	Is the s	ampled area	a within a wetland?	<u> </u>
Hydric soil present? N				
Indicators of wetland hydrology present? N				
Remarks: (Explain alternative procedures here or in a separate re	eport.)			
Point taken in agricultural field. Natural vegetation absent. Bound		pased on soil	ls and topography. Drought o	conditions are present
throughout the region, and the project area is drier than is typical	at this time o	f year.		
VEGETATION - Use scientific names of plants.				
Absolute	Dominant	Indicator	Dominance Test Worksh	eet
<u>Tree Stratum</u> (Plot size:30 ft) % Cover	Species	Staus	Number of Dominant Specie	
			that are OBL, FACW, or FA	C:(A)
	. ———		Total Number of Domina	
3			Species Across all Strat	``,
5			Percent of Dominant Specie that are OBL, FACW, or FA	
	= Total Cove		that are obe, i now, or i no	O. 0.0070 (77B)
Sapling/Shrub stratum (Plot size: 15 ft )			Prevalence Index Works	heet
1			Total % Cover of:	
2			· —	1 = 0
3			· —	2 = 0
			· —	3 = 0
5	= Total Cove			4 = <u>0</u> 5 = <u>0</u>
Herb stratum (Plot size: 5 ft )	- Total Cove		Column totals 0 (A	
1			Prevalence Index = B/A =	(b)
2				
3			Hydrophytic Vegetation	Indicators:
4			Rapid test for hydroph	-
5			Dominance test is >50	
	. ———		Prevalence index is ≤	
8			Morphogical adaptation	
9			supporting data in Rei separate sheet)	marks or on a
10	· ——		Problematic hydrophy	tic vegetation*
	= Total Cove		(explain)	no vogotanom
Woody vine stratum (Plot size: 30 ft )	•		*Indicators of hydric soil and w	retland hydrology must be
1			present, unless disturb	, ,,
2			Hydrophytic	
0 / Page Crayed in Harb Stature 100	= Total Cove	٢	vegetation	
% Bare Ground in Herb Statum 100			present? N	_
Remarks: (Include photo numbers here or on a separate sheet) Natural vegetation absent. Area assumed upland based on the la	ck of hydric s	oils and wet	and hydrology indicators.	

SOIL Sampling Point: 18u

Profile Description	: (Desci	ribe to t	he dept	h neede	d to do	cument	the indi	cator c	or confirm the a	bsence of indicators.)			
		Matrix				Mottles							
Depth (Inches)	Color (	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks			
0-20	10YR	2/1	100	00.0.	(	,,,	. )   0		Clay loam	- tomaine			
20-28	10YR	3/1	100						Clay loam				
28-30	10YR	4/3	100						Clay loam				
			<b>,</b>										
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.  **Location: PL = Pore Lining, M = Matri													
Type: C = Concentra	tion. D =	- Deplet	ion. RM	= Reduc	ed Matri	x. MS =	Masked	Sand	Grains. **Lo	cation: PL = Pore Lining, M = Matri			
Hydric Soil Indicators: Indicators for Problematic Hydric Soils:													
Histisol (A1)				San	dy Gleye	ed Matrix	(S4)	Г	cm Muck (A9)	-			
Histic Epipedon (	A2)				dy Redo		( )	T		dox (A16) (LRR K, L, R)			
Black Histic (A3)				Stri	oped Ma	trix (S6)		Ī	ark Surface (S7	7) (LRR K, L)			
Hydrogen Sulfide						ky Minera			_igh Plains Depr	ressions (F16) (LRR H, outside MLRA			
Stratified Layers				_		ed Matrix	(F2)	_	72,73)	(5.10)			
1 cm Muck (A9) (			1)		leted Ma	` ,	(FC)		educed Vertic				
Depleted Below I Thick Dark Surface		ace (A1	1)			Surface rk Surface	` '		ed Parent Mate	rıal (TF2) rk Surface (TF12)			
Sandy Mucky Mir	` ,	)				rk Suriac essions (	. ,		ther (explain in				
			RR G H)		•	,	,	;) 	trier (explain in	Terriarks)			
2.5 cm Mucky Peat or Peat (S2) (LRR G,H) High Plains Depressions (F16) 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72, 73 of LRR H) *Indicators of hydrophytic vegetation and weltand hydrology must be													
present, unless disturbed or problematic													
Check here if indicators are not present:   Restrictive Laver (if observed):													
Restrictive Layer (if observed):  Type:  Depth (inches):  Hydric soil procent?  N													
	Type:Depth (inches): Hydric soil present?N												
Remarks:													
Hydric soil indicators	absent.												
HYDROLOGY													
Wetland Hydrology	Indicate	ors:											
Primary Indicators (r			is requir	ad: chec	k all that	annly)			Secondary Ind	icators (minimum of two required)			
Surface Water (A		OI OIIC	is require			st (B11)				Soil Cracks (B6)			
High Water Table	,			<u> </u>	L	Fauna (E	212\			ly Vegetated Concave Surface (B8)			
Saturation (A3)	(//2)			<u> </u>		•	o Odor (C	:1)		e Patterns (B10)			
Water Marks (B1	`			<u> </u>			er Table			d Rhizospheres on Living Roots			
Sediment Deposi							oheres or	. ,					
Drift Deposits (B3	` '				•	ot tilled)		ii Liviiig		Burrows (C8)			
Algal Mat or Crus							uced Iron	n (C4)		on Visible on Aerial Imagery (C9)			
Iron Deposits (B5				<u> </u>		ck Surfa		. (51)		phic Position (D2)			
Inundation Visible		al Image	ry (B7)		4		Remark	s)		utral Test (D5)			
Water-Stained Le		_	, ,		] (=			-,		eaved Hummocks (LRR F)			
	\		eck here	if indic	ators a	e not n	resent:	<b>J</b>		,			
Field Observations	:	<u> </u>	ook nore	, ii iiiaic	ator 5 ar	c not p	COCIIC.						
Surface water prese		Yes		No	1	Depth (i	inches):						
Water table present?		Yes	H	No	7		inches):		Ind	licators of wetland			
Saturation present?		Yes	П	No	7	Depth (i				drology present? N			
(includes capillary fri	inge)						,			<u> </u>			
		orded da	ata (stre	am gaug	e. monit	orina we	ll. aerial	photos	s, previous inspe	ctions), if available:			
2000			(51,51	3449	_,	9 170	, 251101	,55100	., <sub>F</sub> . 5 5 40 11 10 po				
Remarks:													
Wetland hydrology ir	ndicators	absent	•										

Project/Site Falkirk Ethanol Plant Lateral (Blue F	lint Line) City/0	County:	McLean	Sampling Date	8/6/2021
Applicant/Owner: WBI Energy Transmission, I	nc.	State:	ND	Sampling Point	: 18w
Investigator(s): LT/AG		Section	on, Township	, Range: S25,	T145N, R82W
Landform (hillslope, terrace, etc.):	lepression	Local re	elief (concave	e, convex, none):	concave
Slope (%): 2 Lat: 47.37	70969	Long:	-101.07780	Datum:	WGS 84
Soil Map Unit Name Williams-Niobell loa	ms, 0 to 3 percer	nt slopes	NWI C	classification:	-
Subregion (MLRA or LRR): F	Are climatic/hy	drologic cond	ditions of the	site typical for this time o	of the year? Y
Are vegetation , soil , or hydrology	significantly	disturbed?	Are "norr	nal circumstances" prese	ent? N
Are vegetation , soil , or hydrology	naturally pro	oblematic?	(If neede	d, explain any answers ir	n remarks.)
<b>SUMMARY OF FINDINGS - Attach site</b>	map showing	sampling	point locat	ions, transect, impo	ortant features, etc.
Hydrophytic vegetation present?	Y	Is the sa	ampled area	within a wetland?	Υ
Hydric soil present?	Υ				
Indicators of wetland hydrology present?	Y				
Remarks: (Explain alternative procedures here o	r in a separate re	port.)			
Point taken in agricultural field. Natural vegetatio	n absent. Bounda	ary mapped b	ased on soils	and topography. Drougl	ht conditions are present
throughout the region, and the project area is drie	er than is typcial	at this time of	year.		
VEGETATION - Use scientific names of	f plants.				
	Absolute	Dominant	Indicator	Dominance Test Work	ksheet
Tree Stratum (Plot size: 30 ft	) % Cover	Species	Staus	Number of Dominant Spe	ecies
1				that are OBL, FACW, or I	FAC: 0 (A)
2				Total Number of Dom	
3				Species Across all St	
5				Percent of Dominant Spethat are OBL, FACW, or I	
<u> </u>		= Total Cover		that are ODE, I AOW, or I	(A/B)
Sapling/Shrub stratum (Plot size: 15 ft	)		<u> </u>	Prevalence Index Wor	rksheet
1				Total % Cover of:	
2				OBL species 0	x 1 = 0
3				FACW species 0	x 2 = 0
4				FAC species 0	x 3 = 0
5		= Total Cover	<del></del>	FACU species 0 UPL species 0	
Herb stratum (Plot size: 5 ft	, —	- Total Cover		Column totals 0	$(A) \frac{0}{0}$ (B)
1	<i>'</i>			Prevalence Index = B/A	_ (
2					
3				Hydrophytic Vegetation	on Indicators:
4				Rapid test for hydro	ophytic vegetation
5				Dominance test is >	
6				Prevalence index is	s ≤3.0*
8				Morphogical adapta	
9				supporting data in F separate sheet)	Remarks or on a
10				Problematic hydrop	hytic vegetation*
	0	= Total Cover		(explain)	mytic vegetation
Woody vine stratum (Plot size: 30 ft	)				nd wetland hydrology must be
1				•	turbed or problematic
2				Hydrophytic	
0/ Poro Cround in Llash Status 400	0	= Total Cover		vegetation	V
% Bare Ground in Herb Statum 100	operate sheet			present?	<u>Y</u>
Remarks: (Include photo numbers here or on a s Natural vegetation absent due to agricultural acti wetland hydrology indicators.		t conditions.	Area assume	d upland based on the la	ack of hydric soils and

SOIL Sampling Point: 18w

Profile Description	: (Desc	ribe to t	he dept	h neede	d to do	cument	the indi	cator o	or confirm the a	bsence of indicators.)		
	_	Matrix	-			Mottles						
Depth (Inches)	Color	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks		
0-6	10YR	2/1	95	10YR	4/6	5	C	M	Clay loam	rtemante		
									<b>,</b>			
Type: C = Concentra	tion, D =	Depleti	on, RM	= Reduc	ed Matri	x, MS =	Masked	Sand (	Grains. **Lo	cation: PL = Pore Lining, M = Matri		
Hydric Soil Indicators: Indicators for Problematic Hydric Soils:												
Histisol (A1) Sandy Gleyed Matrix (S4) Cm Muck (A9) (LRR I,J) Histic Epipedon (A2) Sandy Redox (S5) Oast Prairie Redox (A16) (LRR K, L, R)												
Histic Epipedon (	A2)											
Black Histic (A3)	(4.4)				oped Mai	. ,	N (E4)	-	ark Surface (S7			
Hydrogen Sulfide Stratified Layers	` '	) E/			my Muck my Gleye	•	` ,	L	lign Plains Depr <b>72,73)</b>	ressions (F16) (LRR H, outside MLRA		
1 cm Muck (A9) (					leted Ma			Г	educed Vertic	(F18)		
Depleted Below D			1)	√ Rec	lox Dark	Surface	(F6)		ed Parent Mate	rial (TF2)		
Thick Dark Surface	,				leted Da		. ,			rk Surface (TF12)		
Sandy Mucky Mir	,	,			lox Depre	,	,	΄ Γ	ther (explain in	remarks)		
2.5 cm Mucky Pe							ons (F16		ndicators of hydrophyt	ic vegetation and weltand hydrology must be		
present, unless disturbed or problematic												
Check here if indicators are not present:												
Restrictive Layer (if observed):												
Type: Depth (inches): Hydric soil present?Y												
Remarks:												
Hydric soil indicators	presen	t.										
HYDROLOGY												
Wetland Hydrology	Indicat	ors:										
Primary Indicators (r			s require	ed: chec	k all that	apply)			Secondary Ind	icators (minimum of two required)		
Surface Water (A			<u> </u>			st (B11)				Soil Cracks (B6)		
High Water Table	,				L	Fauna (E	313)			ly Vegetated Concave Surface (B8)		
Saturation (A3)	` /					•	e Odor (C	21)		e Patterns (B10)		
Water Marks (B1	)				Dry Sea	son Wat	er Table	(C2)	Oxidized	d Rhizospheres on Living Roots		
Sediment Deposi	. ,				Oxidized	d Rhizos <sub>l</sub>	pheres o	n Living		•		
Drift Deposits (B3						not tilled)	. ,			Burrows (C8)		
Algal Mat or Crus	. ,						luced Iro	n (C4)		on Visible on Aerial Imagery (C9)		
Iron Deposits (B5		al Imaa-	n. (D7)		•	ck Surfa	` ,	· a \		phic Position (D2)		
Water-Stained Le		U	Iy (D/)		JOther (E	xpiain in	Remark	.s)		utral Test (D5) eaved Hummocks (LRR F)		
	aves (D	,	- als bass	الا الماام	-1			F		saved Hummocks (ERRT)		
Field Observations		Cne	eck here	e it inaic	ators ar	e not p	resent:	<u> </u>				
Surface water prese		Yes		No		Depth (	inches):					
Water table present?		Yes	H	No	Ħ		inches):		Ind	licators of wetland		
Saturation present?		Yes	П	No	$\Box$		inches):			/drology present? Y		
(includes capillary fri	inge)											
Desc	ribe rec	orded da	ata (strea	am gaug	e, monit	oring we	ell, aerial	photos	s, previous inspe	ctions), if available:		
			-						•			
Remarks:												
Wetland hydrology ir	ndicators	nrecen	ŧ									
TVV Guanu Hyurology II	idicators	hiesell	ι.									

Project/Site Falkirk Ethanol Plant Lateral (Blue F	lint Line) City/	County:	McLean	n Sampling Date:	5/5/21
Applicant/Owner: WBI Energy Transmission,	Inc.	State:	ND	Sampling Point:	Upland 1
Investigator(s): LT/AG		Section	on, Township	p, Range: S23, T1	45N, R81W
Landform (hillslope, terrace, etc.):	rainageway	Local r	elief (concav	ve, convex, none):	concave
Slope (%): 1-2 Lat: 47.36	61939	Long:	-100.9696	92 Datum:	WGS 84
Soil Map Unit Name Roseglen silt loan	n, 0 to 2 percent	slopes	NWI (	Classification:	-
Subregion (MLRA or LRR): F	Are climatic/hy	ydrologic cond	ditions of the	site typical for this time of the	he year? Y
Are vegetation , soil , or hydrology	significantly	disturbed?	Are "nor	mal circumstances" present	? Y
Are vegetation , soil , or hydrology	naturally pr	oblematic?	(If neede	ed, explain any answers in re	emarks.)
SUMMARY OF FINDINGS - Attach site	map showing	sampling	point loca	tions, transect, import	ant features, etc.
Hydrophytic vegetation present?	N	Is the sa	ampled area	a within a wetland?	N
Hydric soil present?	N				
Indicators of wetland hydrology present?	N				
Remarks: (Explain alternative procedures here of	r in a separate re	eport.)			
Transect point taken in area that appears to be a	•	. ,	graphs. Area	determined to be upland ba	sed on the
dominance of upland vegetation and lack of hydr	ric soils and hydro	ology indicato	ors.	·	
VEGETATION - Use scientific names o	f plants.				
	Absolute	Dominant	Indicator	Dominance Test Worksh	neet
Tree Stratum (Plot size: 30 ft	) % Cover	Species	Staus	Number of Dominant Specie	es
1	<u> </u>			that are OBL, FACW, or FA	C: 0 (A)
2				Total Number of Domina	
3				Species Across all Strat	
4				Percent of Dominant Specie	
<sup>5</sup>		= Total Cover		that are OBL, FACW, or FA	C: 0.00% (A/B)
Sapling/Shrub stratum (Plot size: 15 ft	,	- Total Cover		Prevalence Index Works	heet
1	/			Total % Cover of:	
2				OBL species 0 x	1 = 0
3				FACW species 0 x	2 = 0
4				· —	3 = 0
5					4 = 0
(8) 4 - 5	,0	= Total Cover	-	· —	5 = 500
Herb stratum (Plot size: 5 ft 1 Bromus inermis	) 100	Υ	UPL	Column totals 100 (A	A) <u>500</u> (B) 5.00
2			— OF L	Frevalence index - D/A -	3.00
3				Hydrophytic Vegetation	Indicators:
4				Rapid test for hydroph	
5				Dominance test is >50	)%
6				Prevalence index is ≤	3.0*
7				Morphogical adaptation	ns* (provide
8				supporting data in Rer	marks or on a
9				separate sheet)	
10	100	= Total Cover		Problematic hydrophy (explain)	tic vegetation <sup>*</sup>
Woody vine stratum (Plot size: 30 ft	)	- Total Cover			
1	/			*Indicators of hydric soil and w present, unless disturb	, ,,
2				Hydrophytic	
	0	= Total Cover	-	vegetation	
% Bare Ground in Herb Statum 0	-			present? N	
Remarks: (Include photo numbers here or on a s	separate sheet)				
Upland vegetation dominates.					

<b>Profile Description</b>	: (Desci	ribe to t	he dept	h neede	d to do	cument	the indi	cator o	or confirm the a	bsence of indicators.)			
		Matrix				Mottles							
Depth (Inches)	Color (	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks			
0-16	10YR	2/1	100	00.01	(1110101)	,,,	1,700	200	Loam	rtemante			
16-26	10YR	4/3	100						Loam				
Type: C = Concentra	tion, D =	Depleti	on, RM	= Reduc	ed Matri	x, MS =	Masked	Sand (	Grains. **Lo	cation: PL = Pore Lining, M = Matri:			
Hydric Soil Indicators: Indicators for Problematic Hydric Soils:													
Histisol (A1)				Sar	dy Gleye	ed Matrix	(S4)	Г	cm Muck (A9)	-			
Histic Epipedon (	A2)				dy Redo		,	Ī		dox (A16) (LRR K, L, R)			
Black Histic (A3)				Stri	pped Ma	trix (S6)			ark Surface (S7	7) (LRR K, L)			
Hydrogen Sulfide	` '				my Muck	•	` '		igh Plains Depr	ressions (F16) (LRR H, outside MLRA			
Stratified Layers					my Gley			_	72,73)	(540)			
1 cm Muck (A9) (			1)		leted Ma	, ,		-	educed Vertic ed Parent Mate	` ,			
Depleted Below I Thick Dark Surfa		ace (A I	1)		lox Dark leted Da		` '	F		rk Surface (TF12)			
Sandy Mucky Mir	,	)		ш.	lox Depre		` '	-	ther (explain in	` ,			
2.5 cm Mucky Pe			.RR G.H)			,	ons (F16	i)		Terriance)			
5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72, 73 of LRR H) *Indicators of hydrophytic vegetation and weltand hydrology must be													
Check here if indicators are not present:     Present, unless disturbed or problematic													
Restrictive Layer (if observed):													
Type: Depth (inches): Hydric soil present? N													
Remarks:				(					,	··· <u></u>			
Hydric soils absent.													
HYDROLOGY													
Wetland Hydrology	Indicat	ors:											
Primary Indicators (r	ninimum	of one	is require	ed; chec	k all that	apply)			Secondary Ind	icators (minimum of two required)			
Surface Water (A			•			st (B11)				Soil Cracks (B6)			
High Water Table	(A2)				L	Fauna (E	313)			ly Vegetated Concave Surface (B8)			
Saturation (A3)	( )					•	e Odor (C	(1)		e Patterns (B10)			
Water Marks (B1	)						er Table	,	= -	d Rhizospheres on Living Roots			
Sediment Deposi	ts (B2)				Oxidized	d Rhizosı	pheres or	n Living	(tilled) (0	C3)			
Drift Deposits (B3	3)				Roots (r	not tilled)	(C3)		Crayfish	Burrows (C8)			
Algal Mat or Crus	t (B4)				Presenc	e of Red	luced Iro	n (C4)	Saturation	on Visible on Aerial Imagery (C9)			
Iron Deposits (B5						ck Surfa				phic Position (D2)			
Inundation Visible		Ū	ry (B7)		Other (E	Explain in	Remark	s)		utral Test (D5)			
Water-Stained Le	eaves (B9	9)							Frost-He	eaved Hummocks (LRR F)			
		Che	eck here	if indic	ators a	re not p	resent:	<b>✓</b>					
Field Observations													
Surface water prese		Yes	Ц	No			inches):						
Water table present	?	Yes	Ц	No			inches):			licators of wetland			
Saturation present?	in a c \	Yes		No	$\checkmark$	Depth (	inches):		hy	drology present? N			
(includes capillary fr													
Desc	cribe rec	orded da	ata (strea	am gaug	e, monit	oring we	II, aerial	photos	s, previous inspe	ctions), if available:			
Remarks:													
Wetland hydrology i	ndicators	absent											
1													

Project/Site Falkirk Ethanol Plant Lateral (Blue F	Flint Line) City/	County:	McLean	Sampling Date:	5/5/21
Applicant/Owner: WBI Energy Transmission,	Inc.	State:	ND	Sampling Point:	Upland 2
Investigator(s): LT/AG		Section	on, Township	o, Range: S22, T14	15N, R81W
Landform (hillslope, terrace, etc.):	rainageway	Local re	elief (concav	e, convex, none):	concave
Slope (%): 5-10 Lat: 47.3	65142	Long:	-100.9778	62 Datum:	WGS 84
Soil Map Unit Name Williams-Bowbells lo	ams, 3 to 6 perce		NWI (	Classification:	-
Subregion (MLRA or LRR): F	Are climatic/h	ydrologic cond	ditions of the	site typical for this time of the	e year? Y
Are vegetation , soil , or hydrology	significantly	disturbed?	Are "nor	mal circumstances" present?	Υ
Are vegetation , soil , or hydrology		oblematic?	(If neede	ed, explain any answers in re	marks.)
SUMMARY OF FINDINGS - Attach site	map showing	sampling	point loca	tions, transect, importa	ant features, etc.
Hydrophytic vegetation present?	N		-	within a wetland?	· · · · · · · · · · · · · · · · · · ·
Hydric soil present?	N				<u></u>
Indicators of wetland hydrology present?	N				
Remarks: (Explain alternative procedures here of	r in a senarate re	anort )			
Transect point taken in area that appears to be a	•	. ,	raphs. Area	determined to be upland bas	ed on the
dominance of upland vegetation and lack of hyd				actorning to 20 apiana sac	
VEGETATION - Use scientific names of	of nlants				
VEGETATION - 03c scientific flames of	Absolute	Dominant	Indicator	Dominance Test Worksho	eet
Tree Stratum (Plot size: 30 ft	) % Cover	Species	Staus	Number of Dominant Species	
1				that are OBL, FACW, or FAC	
2				Total Number of Dominan	nt
3				Species Across all Strata	n:(B)
4				Percent of Dominant Species	
5				that are OBL, FACW, or FAC	: <u>0.00%</u> (A/B)
Conling/Chruib stratum / Diet size. 45 ft	,0	= Total Cover	•	Duayalamaa luuday Warkah	
Sapling/Shrub stratum (Plot size: 15 ft 1	)			Prevalence Index Worksh Total % Cover of:	ieet
2				OBL species 0 x	1 = 0
3				· —	2 = 0
4				· —	3 = 0
5				FACU species 0 x 4	4 = 0
	0	= Total Cover		UPL species 40 x 5	5 = 200
Herb stratum (Plot size: 5 ft	)			Column totals 40 (A	) 200 (B)
1 Bromus inermis	40	<u> </u>	UPL	Prevalence Index = B/A =	5.00
2				The best of West of the L	- P4
3				Hydrophytic Vegetation I	
5				Rapid test for hydrophy Dominance test is >50	•
6				Prevalence index is ≤3	
7				Morphogical adaptation	
8				supporting data in Rem	
9				separate sheet)	
10				Problematic hydrophyti	ic vegetation*
	40	= Total Cover		(explain)	
Woody vine stratum (Plot size: 30 ft	)			*Indicators of hydric soil and we	, ,,
1				present, unless disturbe	ed or problematic
2	0	= Total Cover		Hydrophytic vegetation	
% Bare Ground in Herb Statum 60	U	i otai oovei		present? N	
Remarks: (Include photo numbers here or on a	= separate sheet)				_
Upland vegetation dominated.	,				

Profile Description	: (Desci	ribe to t	he dept	h neede	d to doo	cument	the indi	cator o	r confirm the a	bsence of indicators.)			
		Matrix	-			Mottles							
Depth (Inches)	Color (	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks			
0-4	10YR	2/1	100	00.01	(1110101)	,,,	1,700		Loam	rtemante			
4-12	2.5YR	5/3	100	7.5YR	4/4	5	С	М	Clay Loam				
		0.0			- 7.		_						
Type: C = Concentra	tion, D =	- Depleti	on, RM	= Reduc	ed Matri	x, MS =	Masked	Sand (	Grains. **Lo	cation: PL = Pore Lining, M = Matri:			
Hydric Soil Indi			-							Problematic Hydric Soils:			
Histisol (A1)				San	dy Gleye	ed Matrix	(S4)	Γ	cm Muck (A9)	-			
Histic Epipedon (	A2)				dy Redo			Ī		dox (A16) ( <b>LRR K, L, R</b> )			
Black Histic (A3)	(A A)				pped Mat	, ,	= .		ark Surface (S				
Hydrogen Sulfide	` '			_	my Muck	•	` '	L		ressions (F16) (LRR H, outside MLRA			
Stratified Layers 1 cm Muck (A9) (					my Gleye leted Ma			Г	72,73)  educed Vertic	(F18)			
Depleted Below D			1)		ox Dark	` ,		H	ed Parent Mate	` ,			
Thick Dark Surface		(	.,		leted Da		` '	Ė		rk Surface (TF12)			
Sandy Mucky Mir				Red	ox Depre	essions (	(F8)	Ĺ	ther (explain in				
2.5 cm Mucky Pe							ons (F16						
5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72, 73 of LRR H) *Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic													
Check here if indicators are not present:													
Restrictive Layer (if observed):													
Type: Depth (inches): Hydric soil present? N													
Remarks:													
Hydric soils are abse	ent.												
HYDROLOGY													
Wetland Hydrology													
Primary Indicators (r		of one	is require	ed; chec						icators (minimum of two required)			
Surface Water (A	,				Salt Cru	,				Soil Cracks (B6)			
High Water Table	e (A2)				Aquatic	•				ly Vegetated Concave Surface (B8)			
Saturation (A3)							e Odor (C	,	= -	e Patterns (B10)			
Water Marks (B1	,						er Table	. ,		d Rhizospheres on Living Roots			
Sediment Deposi	. ,				•		pheres or	n Living		*			
Drift Deposits (B3						ot tilled)	. ,	· (C4)		Burrows (C8)			
Algal Mat or Crus							luced Iron	1 (C4)		on Visible on Aerial Imagery (C9)			
Iron Deposits (B5		al Imago	rv (R7)			ck Surfa	ce (C7) Remark	e)	_	phic Position (D2) utral Test (D5)			
Water-Stained Le		Ū	ту (Бт)		Other (L	.хріант ін	i ixemaik	5)		eaved Hummocks (LRR F)			
	aves (Be		eck here	if india	otoro or	o not n	roconti	<b>√</b>		saved Hammooke (Erkit I )			
Field Observations		Citi	eck nere	; ii iiiuic	aluis ai	e not p	resent.	Ľ					
Surface water prese		Yes		No	$\Box$	Depth (	inches):						
Water table present?		Yes	H	No			inches):		Inc	licators of wetland			
Saturation present?		Yes	Ħ	No			inches):			vdrology present? N			
(includes capillary fri	inge)					. (	,						
		orded da	ata (strea	am gaud	e, monit	oring we	ell, aerial	photos	, previous inspe	ctions), if available:			
			,	5 9	,	J	,	,		"			
Domorks:													
Remarks:	adicat-:	. aba'											
Wetland hydrology ir	เนเบสเบาร	ausent	•										

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line) C	City/County:	McLean	Sampling Date:	5/5/21
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND	Sampling Point:	Upland 3
Investigator(s): LT/AG	Section	on, Township	, Range: S22, T145	N, R81W
Landform (hillslope, terrace, etc.): drainageway	Local re	elief (concave	e, convex, none): cor	ncave
Slope (%): 5 Lat: 47.368942	Long:	-100.98747	77 Datum: V	VGS 84
Soil Map Unit Name Falkirk loam, 0 to 3 percent	slopes	NWI C	lassification:	-
Subregion (MLRA or LRR): F Are climati	c/hydrologic cond	litions of the	site typical for this time of the	year? Y
Are vegetation, soil, or hydrology significa	ntly disturbed?	Are "norn	nal circumstances" present?	Υ
Are vegetation , soil , or hydrology naturally	y problematic?	(If neede	d, explain any answers in rema	arks.)
SUMMARY OF FINDINGS - Attach site map show	ing sampling	point locat	ions, transect, importan	t features, etc.
Hydrophytic vegetation present? N	Is the sa	ampled area	within a wetland? N	
Hydric soil present? N				_
Indicators of wetland hydrology present? N				
Remarks: (Explain alternative procedures here or in a separat	te report.)			
Transect point taken in area that appears to be a drainageway			determined to be upland based	d on the
dominance of upland vegetation and lack of hydric soils and h	ydrology indicato	rs.		
VEGETATION - Use scientific names of plants.				
Absolu	ute Dominant	Indicator	Dominance Test Workshee	t
Tree Stratum (Plot size: 30 ft ) % Cov	ver Species	Staus	Number of Dominant Species	
			that are OBL, FACW, or FAC:	0 (A)
2			Total Number of Dominant	4 (D)
3	<del></del> .		Species Across all Strata:	1(B)
5			Percent of Dominant Species that are OBL, FACW, or FAC:	0.00% (A/B)
	= Total Cover		•	(142)
Sapling/Shrub stratum (Plot size: 15 ft )			Prevalence Index Workshe	et
1			Total % Cover of:	
2			OBL species 0 x 1 =	
3			FACW species 0 x 2 =	
4	<del></del> .		FAC species 0 x 3 = FACU species 0 x 4 =	
	= Total Cover		UPL species 70 x 5 =	
Herb stratum (Plot size: 5 ft )			Column totals 70 (A)	350 (B)
1 Bromus inermis 70	Υ	UPL	Prevalence Index = B/A =	5.00
2			-	
3			Hydrophytic Vegetation Inc	
4			Rapid test for hydrophytic	c vegetation
5			Dominance test is >50% Prevalence index is ≤3.0	*
6				
8	<del></del> .		Morphogical adaptations supporting data in Rema	
9			separate sheet)	ino or orra
10		,	Problematic hydrophytic	vegetation*
70	= Total Cover		(explain)	
Woody vine stratum (Plot size: 30 ft )			*Indicators of hydric soil and wetla	
			present, unless disturbed	or problematic
2	- Total Cave		Hydrophytic vegetation	
0 % Bare Ground in Herb Statum 30	= Total Cover		present? N	
Remarks: (Include photo numbers here or on a separate shee	et)			
Upland vegetation dominates.	•			

<b>Profile Description</b>	: (Desci	ribe to t	he dept	h neede	d to do	cument	the indi	cator o	r confirm the a	bsence of indicators.)			
		Matrix				Mottles							
Depth (Inches)	Color (	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks			
0-12	10YR	2/1	100		()	, -	. 71-		Loam	, , , , , , , , , , , , , , , , , , , ,			
12-18	10YR	2/2	100						Clay Loam				
18-24	2.5YR	4/3	100						Clay Loam				
Type: C = Concentra	tion. D =	- Depleti	on. RM	= Reduc	ed Matri	x. MS =	Masked	Sand (	Grains. **Lo	cation: PL = Pore Lining, M = Matri			
Hydric Soil Indicators: Indicators for Problematic Hydric Soils:													
Histisol (A1)				□San	dv Gleve	ed Matrix	(S4)	Г	cm Muck (A9)	-			
Histic Epipedon (	A2)				dy Redo		(- ')			dox (A16) (LRR K, L, R)			
Black Histic (A3)	,				pped Ma				ark Surface (S7				
Hydrogen Sulfide	(A4)				•	ky Minera	` '		igh Plains Depr	ressions (F16) (LRR H, outside MLRA			
Stratified Layers						ed Matrix		-	72,73)				
1 cm Muck (A9) (			1.		leted Ma	, ,			educed Vertic				
Depleted Below [		ace (A1	1)			Surface rk Surface	` '		ed Parent Mate	rk Surface (TF12)			
Thick Dark Surfa	,	١				essions (	` '	L	ther (explain in	` ,			
2.5 cm Mucky Pe			RR G H)			,	,	;) L	urier (explain iii	Terriarks)			
5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72, 73 of LRR H) *Indicators of hydrophytic vegetation and weltand hydrology must be													
Check here if indicators are not present:													
Check here if indicators are not present:													
Type: Depth (inches): Hydric soil present? N													
			<u> </u>	out (interi				• • •	yana son prese	<u></u>			
Remarks:													
Hydric soils absent.													
HYDROLOGY													
Wetland Hydrology	Indicate	ors:											
Primary Indicators (r			s require	ed: chec	k all that	apply)			Secondary Ind	icators (minimum of two required)			
Surface Water (A		0. 0	<u> </u>	<u> </u>		st (B11)				Soil Cracks (B6)			
High Water Table	,			<u> </u>	L	Fauna (E	313)			ely Vegetated Concave Surface (B8)			
Saturation (A3)	, (, <u>, , , , , , , , , , , , , , , , , </u>					•	e Odor (C	(1)		e Patterns (B10)			
Water Marks (B1	)						er Table	,	= -	d Rhizospheres on Living Roots			
Sediment Deposi	,						pheres or	` '					
Drift Deposits (B3	. ,				-	not tilled)		3		Burrows (C8)			
Algal Mat or Crus					_ `		luced Iron	n (C4)		on Visible on Aerial Imagery (C9)			
Iron Deposits (B5					-	ck Surfa		` ,		phic Position (D2)			
Inundation Visible		al Image	ry (B7)		Other (E	Explain in	Remark	s)		eutral Test (D5)			
Water-Stained Le	eaves (B9	9)							Frost-He	eaved Hummocks (LRR F)			
		Che	eck here	if indic	ators a	re not p	resent:	<b>_</b>					
Field Observations	:												
Surface water prese		Yes		No	<b>✓</b>		inches):						
Water table present	?	Yes		No	$\checkmark$	Depth (	inches):			licators of wetland			
Saturation present?		Yes		No	<b>✓</b>	Depth (	inches):		hy	/drology present? N			
(includes capillary fr	inge)								_				
Desc	cribe reco	orded da	ata (strea	am gaug	e, monit	oring we	ell, aerial	photos	, previous inspe	ctions), if available:			
Remarks:													
Wetland hydrology in	ndicators	s ahsent											
Suana nyarology ii	.a.oatoi S	, abouil	•										

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line) City/	County:	McLean	Sampling Date:	5/5/21
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND	Sampling Point:	Upland 4
Investigator(s): LT/AG	Secti	on, Township	o, Range: S21, T14	15N, R81W
Landform (hillslope, terrace, etc.): plains	Local r	elief (concav	e, convex, none):	none
Slope (%): 0 Lat: 47.370986	Long:	-101.0057	43 Datum:	WGS 84
Soil Map Unit Name Roseglen-Tansem silt loams, 2 to 6 per	cent slopes	NWIC	Classification:	PEM1A
Subregion (MLRA or LRR): F Are climatic/hy	drologic con	ditions of the	site typical for this time of the	e year? Y
Are vegetation , soil , or hydrology significantly	disturbed?	Are "nor	mal circumstances" present?	N
Are vegetation $\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$	oblematic?	(If neede	ed, explain any answers in re	marks.)
<b>SUMMARY OF FINDINGS - Attach site map showing</b>	sampling	point loca	tions, transect, importa	ant features, etc.
Hydrophytic vegetation present? N	Is the s	ampled area	within a wetland?	<u> </u>
Hydric soil present? N				
Indicators of wetland hydrology present? N				
Remarks: (Explain alternative procedures here or in a separate re	port.)			
Transect taken in NWI polygon within agricultural field. Natural ve			ricultural activities and droug	ht conditions. Area
assumed upland based on the lack of hydric soils and wetland hy	drology indicate	ators.		
VEGETATION - Use scientific names of plants.				
Absolute	Dominant	Indicator	Dominance Test Worksho	eet
<u>Tree Stratum</u> (Plot size: <u>30 ft</u> ) % Cover	Species	Staus	Number of Dominant Species	
1			that are OBL, FACW, or FAC	
3			Total Number of Dominan Species Across all Strata	
			Percent of Dominant Species	
5			that are OBL, FACW, or FAC	
	= Total Cove	r		` ′
Sapling/Shrub stratum (Plot size: 15 ft )		•	Prevalence Index Worksh	neet
1			Total % Cover of:	
2			OBL species 0 x	
3			FACW species 0 x 2 FAC species 0 x 3	
5			· —	4 = 0
	= Total Cove		UPL species 0 x 5	
Herb stratum (Plot size: 5 ft )	-		Column totals 0 (A	
1			Prevalence Index = $B/A$ =	
2				
3			Hydrophytic Vegetation I	
			Rapid test for hydrophy	_
5			Dominance test is >50 <sup>o</sup> Prevalence index is ≤3	
7				
8			Morphogical adaptation supporting data in Rem	**
9			separate sheet)	
10			Problematic hydrophyti	ic vegetation*
0	= Total Cove	r	(explain)	
Woody vine stratum (Plot size: 30 ft )			*Indicators of hydric soil and we	, ,,
1			present, unless disturbe	ed or problematic
	= Total Cove		Hydrophytic vegetation	
% Bare Ground in Herb Statum 100	10tal 00VE	'	present? N	
Remarks: (Include photo numbers here or on a separate sheet)				
Natural vegetation absent due to agricultural activities and drough	t conditions.	Area assume	ed upland based on the lack	of hydric soils and
wetland hydrology indicators.				

Profile Description	: (Desci	ribe to t	he depti	h neede	d to doo	cument	the indi	cator o	r confirm the a	bsence of indicators.)			
		Matrix				Mottles							
Depth (Inches)	Color (	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks			
0-8	10YR	2/1	100	00.0.	(	,,,	. , , , ,		Loam	, terriainte			
8-26	10YR	3/2	100						Clay Loam				
26-30	2.5YR	5/3	100	10YR	4/6	5	С	М	Clay Loam				
	2.0	0, 0			., 0				0.4, 204				
Type: C = Concentra	Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matri.												
Hydric Soil Indicators: Indicators for Problematic Hydric Soils:													
Histisol (A1)				San	dy Gleye	ed Matrix	(S4)	Г	cm Muck (A9)	-			
Histic Epipedon (	A2)				dy Redo		` ,	Ī		dox (A16) (LRR K, L, R)			
Black Histic (A3)					oped Mat	` '			ark Surface (S				
Hydrogen Sulfide					my Muck					ressions (F16) (LRR H, outside MLRA			
Stratified Layers				_	my Gleye		(F2)	г	72,73)	(540)			
1 cm Muck (A9) (			11		leted Ma lox Dark	` ,	(E6)	-	educed Vertic	` ,			
Depleted Below I Thick Dark Surfa		ace (A I	1)	<u> </u>	leted Da		` '	L	ed Parent Mate	rk Surface (TF12)			
Sandy Mucky Mir	, ,	)			ox Depre		` '	L	ther (explain in	` '			
2.5 cm Mucky Pe			RR G,H)			,	. ,	i)		remaine)			
5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72, 73 of LRR H) *Indicators of hydrophytic vegetation and weltand hydrology must be													
	Check here if indicators are not present:     Present, unless disturbed or problematic   Present   Present												
Restrictive Layer (i	Restrictive Layer (if observed):												
Type: Depth (inches): Hydric soil present? N													
				•					•				
		Remarks:											
Hydric soils absent.													
HYDROLOGY													
HYDROLOGY Wetland Hydrology	Indicate	ors:											
			s require	ed; chec	k all that	apply)			Secondary Ind	icators (minimum of two required)			
Wetland Hydrology	minimum		s require	ed; chec	k all that Salt Cru					icators (minimum of two required) Soil Cracks (B6)			
Wetland Hydrology Primary Indicators (r	minimum ៶1)		s require			st (B11)	313)		Surface				
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3)	minimum (1) e (A2)		s require		Salt Cru Aquatic Hydroge	st (B11) Fauna (E en Sulfide	e Odor (C		Surface Sparse	Soil Cracks (B6)			
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1	minimum (1) e (A2)		s require		Salt Cru Aquatic Hydroge	st (B11) Fauna (E en Sulfide			Surface Sparse Drainag Oxidized	Soil Cracks (B6) lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots			
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposi	minimum (1) e (A2) ) its (B2)		s require		Salt Cru Aquatic Hydroge Dry Sea Oxidized	st (B11) Fauna (Een Sulfide son Wat d Rhizos	e Odor (C er Table oheres o	(C2)	Surface Sparse Drainag Oxidized	Soil Cracks (B6) lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3)			
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit	minimum (1) e (A2) ) its (B2)		s require		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r	st (B11) Fauna (Een Sulfide son Wat d Rhizosi not tilled)	e Odor (Cer Table oheres or (C3)	(C2) n Living	Surface Sparse Drainag Oxidized (tilled) ((	Soil Cracks (B6) lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8)			
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Orift Deposits (B3 Algal Mat or Crus	minimum (1) e (A2) ) its (B2) 3) st (B4)		s require		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presenc	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) e of Red	e Odor (Cer Table oheres or (C3)	(C2) n Living	Surface Sparse Drainag Oxidized (tilled) (( Crayfish	Soil Cracks (B6) lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9)			
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus	minimum (1) (A2) ) ) its (B2) (B4) (b)	of one i			Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend	st (B11) Fauna (Een Sulfiderson Wated Rhizosport tilled) ee of Red	e Odor (Cer Table oheres of (C3) luced Iron (C7)	(C2) n Living n (C4)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati	Soil Cracks (B6) lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) l Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)			
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposi Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5	minimum (1) (A2) (B2) (Its (B2) (B3) (B4) (B4) (B4) (B4) (B4) (B4) (B4) (B4	of one i			Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend	st (B11) Fauna (Een Sulfiderson Wated Rhizosport tilled) ee of Red	e Odor (Cer Table oheres or (C3)	(C2) n Living n (C4)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati Geomor	Soil Cracks (B6)  lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) l Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)			
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus	minimum (1) (A2) (B2) (Its (B2) (B3) (B4) (B4) (B4) (B4) (B4) (B4) (B4) (B4	of one i	ry (B7)		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (Een Sulfiderson Wated Rhizosport tilled) the e of Redeck Surfaction in	e Odor (Cer Table oheres of (C3) luced Iron (C7) Remark	(C2) n Living n (C4)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati Geomor	Soil Cracks (B6) lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) l Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)			
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le	minimum (1) (2) (42) (3) (5) (5) (6) (6) (6) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7	of one i			Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (Een Sulfiderson Wated Rhizosport tilled) the e of Redeck Surfaction in	e Odor (Cer Table oheres of (C3) luced Iron (C7) Remark	(C2) n Living n (C4)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati Geomor	Soil Cracks (B6)  lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) l Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)			
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le	minimum (1) (1) (2) (A2) (3) (3) (4) (5) (6) (6) (6) (6) (6) (6) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7	al Image	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in	e Odor (Cer Table otheres of (C3) luced Irol (C7) Remark	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati Geomor	Soil Cracks (B6)  lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) l Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)			
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B3 Inundation Visible Water-Stained Le	minimum (1) (2) (A2) (3) (3) (4) (5) (6) (6) (6) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7	al Image  Cho	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat I Rhizos not tilled) se of Red ck Surfa explain in  Depth (	e Odor (Cer Table obheres of (C3) luced Iron (C7) Remark	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (Crayfish Saturati Geomor FAC-Ne	Soil Cracks (B6) bly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposits (B3 Algal Mat or Crus Iron Deposits (B3 Inundation Visible Water-Stained Le Field Observations Surface water prese Water table present	minimum (1) (2) (A2) (3) (3) (4) (5) (6) (6) (6) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7	al Image  Che  Yes  Yes	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat I Rhizos not tilled) ee of Red ck Surfa explain in  Depth ( Depth (	e Odor (Cer Table oberes of (C3) luced Irol ce (C7) Remark resent:	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati Geomor FAC-Ne Frost-He	Soil Cracks (B6) bly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Inundation Visible Water-Stained Le Field Observations Surface water prese Water table present?	minimum (1) (2) (A2) (3) (3) (4) (5) (6) (6) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7	al Image  Cho	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat I Rhizos not tilled) ee of Red ck Surfa explain in  Depth ( Depth (	e Odor (Cer Table obheres of (C3) luced Iron (C7) Remark	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati Geomor FAC-Ne Frost-He	Soil Cracks (B6) bly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fr	minimum (1) (2) (A2) (3) (3) (3) (4) (5) (6) (6) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7	al Image  Che  Yes  Yes  Yes	ry (B7)	s if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E  ators ar	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in  Te not pi  Depth ( Depth (	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (0 Crayfish Saturati Geomor FAC-Ne Frost-He	Soil Cracks (B6)  lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fr	minimum (1) (2) (A2) (3) (3) (3) (4) (5) (6) (6) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7	al Image  Che  Yes  Yes  Yes	ry (B7)	s if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E  ators ar	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in Te not pi  Depth ( Depth (	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (0 Crayfish Saturati Geomor FAC-Ne Frost-He	Soil Cracks (B6) bly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B3 Inundation Visible Water-Stained Le Field Observations Surface water prese Water table present' Saturation present? (includes capillary fr	minimum (1) (2) (A2) (3) (3) (3) (4) (5) (6) (6) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7	al Image  Che  Yes  Yes  Yes	ry (B7)	s if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E  ators ar	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in Te not pi  Depth ( Depth (	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (0 Crayfish Saturati Geomor FAC-Ne Frost-He	Soil Cracks (B6)  lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			
Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fr	minimum (1) (2) (4) (4) (5) (5) (6) (6) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7	al Image (i)  Che Yes Yes Yes Orded da	ry (B7)  eck here	s if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (r Presenc Thin Mu Other (E  ators ar	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) se of Red ck Surfa explain in Te not pi  Depth ( Depth (	e Odor (Cer Table beheres or (C3) luced Iron ce (C7) Remark resent: inches): inches):	(C2) n Living n (C4) s)	Surface Sparse Drainag Oxidized (tilled) (0 Crayfish Saturati Geomor FAC-Ne Frost-He	Soil Cracks (B6)  lly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)			

Project/Site Falkirk Ethanol Plant Lateral (Blue Flin	t Line) City	/County:	McLean	Sampling Da	ate: 5/5/21
Applicant/Owner: WBI Energy Transmission, Inc	).	State:	ND	Sampling Po	oint: Upland 5
Investigator(s): LT/AG		Section	on, Township	, Range: S2	21, T145N, R81W
Landform (hillslope, terrace, etc.):	plain	Local re	elief (concave	e, convex, none):	none
Slope (%): 0 Lat: 47.3710	047	Long:	-101.01240	08 Datum:	WGS 84
Soil Map Unit Name Falkirk loam, 0 to	3 percent slo	ppes	NWI C	lassification:	PEM1C
Subregion (MLRA or LRR): F	Are climatic/h	ydrologic cond	ditions of the	site typical for this tim	e of the year? Y
Are vegetation , soil , or hydrology	significantly	y disturbed?	Are "norn	mal circumstances" pr	resent? N
Are vegetation , soil , or hydrology	naturally p	roblematic?	(If neede	d, explain any answer	s in remarks.)
SUMMARY OF FINDINGS - Attach site m	ap showing	g sampling	point locat	tions, transect, im	portant features, etc.
	N		-	within a wetland?	N
_	N		·	•	
	N				
Remarks: (Explain alternative procedures here or in		report \			
Transect taken in NWI polygon within agricultural fi	•	. ,	ent due to aar	ricultural activities and	drought conditions Area
assumed upland based on the lack of hydric soils a				ioditarai activitics and	drought conditions. Area
VECETATION Has assentific names of a	·lanta				
VEGETATION - Use scientific names of p			la dia atau	Dominance Test W	orkshoot
Tree Stratum (Plot size: 30 ft )	Absolute % Cover		Indicator Staus		
1	70 00101	5,000.00	Otado	Number of Dominant that are OBL, FACW,	•
2	_			Total Number of D	( ,
3				Species Across al	
4				Percent of Dominant	Species
5				that are OBL, FACW, $ \\$	or FAC: 0.00% (A/B)
	0	_= Total Cover	•		
Sapling/Shrub stratum (Plot size: 15 ft	_)			Prevalence Index V	Vorksheet
1				Total % Cover of:	
2	_	<u> </u>		OBL species 0	
3				FACW species C	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
5		<del></del>		FACU species (	<del></del>
<u> </u>		= Total Cover		UPL species (	
<u>Herb stratum</u> (Plot size: 5 ft	)	_		Column totals	
1	<b>—</b> '			Prevalence Index = I	B/A =
2					
3				Hydrophytic Vegeta	
4					drophytic vegetation
5				Dominance test	
6	_			Prevalence inde	
8	_				aptations* (provide
9	_			supporting data separate sheet)	in Remarks or on a
10	_	_			rophytic vegetation*
	0	= Total Cover	-	(explain)	rophytic vogotation
Woody vine stratum (Plot size: 30 ft	)	_			l and wetland hydrology must be
1				-	disturbed or problematic
2				Hydrophytic	
O/ Dave Consumed in Library Obst. 400	0	= Total Cover	·	vegetation	N
% Bare Ground in Herb Statum 100	411			present?	<u>N</u>
Remarks: (Include photo numbers here or on a sep Natural vegetation absent due to agricultural activit wetland hydrology indicators.	-	ht conditions.	Area assume	ed upland based on the	e lack of hydric soils and

Profile Description	: (Descr	ribe to t	he dept	neede	d to doc	cument	the indi	cator o	r confirm the a	bsence of indicators.)
		Matrix				Mottles				
Depth (Inches)	Color (	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks
0-8	10YR	2/1	100	-			7.		Loam	
8-26	10YR	3/2	100						Clay Loam	
26-30	2.5YR	5/3	100	10YR	4/6	5	С	М	Clay Loam	
	ليبيا	5 1.0						لِـــا	~ · ++1	i Di Bi i M M M
Type: C = Concentra		: Depleti	on, RM	= Reduc	ed Matri	x, MS =	Masked			cation: PL = Pore Lining, M = Matri
Hydric Soil Indi	cators:			⊏kar.	du Clove	- 4 Matrix	(04)	Г		Problematic Hydric Soils:
Histisol (A1) Histic Epipedon (	Δ2)				idy Gleye idy Redo	ed Matrix	(54)	L T	cm Muck (A9)	(LRR I,J) dox (A16) (LRR K, L, R)
Black Histic (A3)	AZ)				pped Mat			L	ark Surface (S	
Hydrogen Sulfide	(A4)					ky Minera	al (F1)		_	ressions (F16) (LRR H, outside MLRA
Stratified Layers	(A5) (LRR	•				ed Matrix		-	72,73)	, , ,
1 cm Muck (A9) (LRR F,G,H)  Depleted Matrix (F3)  Depleted Below Dark Surface (A11)  Redox Dark Surface (F6)  educed Vertic (F18)  educed Vertic (F18)										
Depleted Below Deplet		ace (A11	1)				` '	ļ	ed Parent Mate	` ,
Thick Dark Surfaction  Sandy Mucky Mir	,	١				ark Surfac essions (	` '	Ļ	ther (explain in	rk Surface (TF12)
2.5 cm Mucky Pe			RR G.H)			Depressi	,	∟ (ز		Temarks)
5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72, 73 of LRR H) *Indicators of hydrophytic vegetation and weltand hydrology must be										
Check here if indicators are not present:										
Restrictive Layer (if observed):										
Type:		•	Dep	oth (inch	es):			H	ydric soil prese	ent? N
Remarks:										
Hydric soils are abse	ent.									
,										
:::/==0! 00\/										
HYDROLOGY	1: None									
Wetland Hydrology										
Primary Indicators (r		of one	is require	ed; chec						licators (minimum of two required)
Surface Water (A	•			$\vdash$	L.	ıst (B11)	- 10\			Soil Cracks (B6)
High Water Table	(A2) (					Fauna (E		<b>54</b> 1		ely Vegetated Concave Surface (B8)
Saturation (A3)	`			<u> </u>	_ ,	en Sulfide	`	,		e Patterns (B10)
Water Marks (B1 Sediment Deposi	,				-	son Wat		. ,		d Rhizospheres on Living Roots
Drift Deposits (B3	. ,				_	d Rhizosp not tilled)		1 Living	:	n Burrows (C8)
Algal Mat or Crus					_ `	ce of Red	. ,	n (C4)		on Visible on Aerial Imagery (C9)
Iron Deposits (B5	. ,				=	ick Surfa		1 (04)		rphic Position (D2)
Inundation Visible		al Image	rv (B7)		=	Explain in	. ,	c)	=	eutral Test (D5)
Water-Stained Le		Ū	ly (D.,		JOHIO! (2	.Apiaiii iii	Homan	٥,		eaved Hummocks (LRR F)
	,a,,,,		eck here	if indic	ators at	re not n	resent.	<b>√</b>		2404   141111100110 (2)
Field Observations	:		SUK HUI	; II IIIGIG	ators a	e not p	esent.			
Surface water prese		Yes		No		Depth (	inches):			
Water table present?		Yes	Ħ	No	M		inches):		Inc	dicators of wetland
Saturation present?		Yes		No	<u></u>	Depth (	inches):		hy	/drology present? N
(includes capillary fri	inge)									
Desc	cribe reco	orded da	ata (strea	am gaug	e, monit	oring we	ell, aerial	photos	s, previous inspe	ctions), if available:
										<del></del>
Remarks:										
Wetland hydrology ir	ndicators	absent								
, ,,										

Project/Site Falkirk Ethanol Plant Lateral (Blue Fli	nt Line) Cit	y/County:	McLean	Sampling Date	e: 5/5/21		
Applicant/Owner: WBI Energy Transmission, Ir	nc.	State:	ND	Sampling Poin	nt: Upland 6		
Investigator(s): LT/AG		Section	on, Township,	ip, Range: S20, T145N, R81W			
Landform (hillslope, terrace, etc.):	plain	Local re	elief (concave	e, convex, none):	none		
Slope (%): 5 Lat: 47.37	0637	Long:	-101.01548	9 Datum:	WGS 84		
Soil Map Unit Name Williams-Bowbells loa	ms, 3 to 6 per	cent slopes	NWI C	lassification:	PEM1A		
Subregion (MLRA or LRR): F	Are climatic/	hydrologic cond	ditions of the s	site typical for this time	of the year? Y		
Are vegetation , soil , or hydrology	significant	tly disturbed?	Are "norm	nal circumstances" pres	sent? N		
Are vegetation , soil , or hydrology	naturally	problematic?	(If needed	d, explain any answers	in remarks.)		
SUMMARY OF FINDINGS - Attach site n	nap showin	ng sampling	point locat	ions, transect, imp	portant features, etc.		
Hydrophytic vegetation present?	N	Is the sa	ampled area	within a wetland?	N		
Hydric soil present?	N		•	_			
Indicators of wetland hydrology present?	N						
Remarks: (Explain alternative procedures here or		report )					
Transect taken in NWI polygon within agricultural	•	. ,	ent due to agri	icultural activities and c	drought conditions Area		
assumed upland based on the sloping topography		•	_		Tought conditions. Area		
VEGETATION - Use scientific names of	-			Daminanaa Taat Wa	wlea la a a 4		
Tree Stratum (Plot size: 30 ft	Absolut ) % Cove		Indicator Staus	Dominance Test Wor			
1	) 70 OOVO	л Ороско		Number of Dominant Sp that are OBL, FACW, or	•		
2				Total Number of Dor			
3				Species Across all S			
4				Percent of Dominant Sp			
5				that are OBL, FACW, or	r FAC: <u>0.00%</u> (A/B)		
	0	= Total Cover					
Sapling/Shrub stratum (Plot size: 15 ft	)			Prevalence Index Wo	orksheet		
1				Total % Cover of:			
2				OBL species 0	x1=0		
3			<del></del>	FACW species 0 FAC species 0	$\begin{array}{ccc}  & x & 2 & = & 0 \\  & x & 3 & = & 0 \end{array}$		
5				FACU species 0	- x 4 = 0		
<u> </u>		= Total Cover		UPL species 0	-x = -0		
Herb stratum (Plot size: 5 ft	)	_		Column totals 0	(A) $(B)$		
1				Prevalence Index = B/			
2							
3				Hydrophytic Vegetat			
4					rophytic vegetation		
5				Dominance test is			
6			<del></del>	Prevalence index			
8			<del></del>	Morphogical adap			
9		_		supporting data in separate sheet)	Remarks or on a		
10					ophytic vegetation*		
-		= Total Cover		(explain)	priyas regulation		
Woody vine stratum (Plot size: 30 ft	)	_			and wetland hydrology must be		
1				-	isturbed or problematic		
2				Hydrophytic			
0/ Para Craund in Llank Otation 400	0	= Total Cover		vegetation	N		
% Bare Ground in Herb Statum 100	marata -l ()			present?	<u>N</u>		
Remarks: (Include photo numbers here or on a se Natural vegetation absent due to agricultural activ wetland hydrology indicators.			Area assume	d upland based on the	lack of hydric soils and		

Profile Description:	(Desci	ribe to t	he dept	n neede	d to do	cument	the indi	cator o	or confirm the a	bsence of indicators.)
		Matrix				Mottles				
Depth (Inches)	Color (	(moist)	%	Color (	(moist)	%	Type*	Loc**	Texture	Remarks
0-25	10YR	2/1	100		,				Loam	
25-40	10YR	3/1	100	10YR	4/6	5	С	М	Clay Loam	1-2 in of redox
Type: C = Concentra	tion, D =	- Depleti	ion, RM	= Reduc	ed Matri	x, MS =	Masked	Sand (	Grains. **Lo	cation: PL = Pore Lining, M = Matri
Hydric Soil Indi	cators:								Indicators for F	Problematic Hydric Soils:
Histisol (A1)					dy Gleye		(S4)		cm Muck (A9)	
Histic Epipedon (	A2)				dy Redo					dox (A16) (LRR K, L, R)
Black Histic (A3)	(1.4)				oped Mat my Muck	. ,	J (E1)	-	ark Surface (S	
Hydrogen Sulfide Stratified Layers		? F\		_	my Gley	•	` '	L	lign Plains Depi <b>72,73)</b>	ressions (F16) (LRR H, outside MLRA
1 cm Muck (A9) (	. , .	•			leted Ma			Γ	educed Vertic	(F18)
Depleted Below D			1)	Red	lox Dark	Surface	(F6)	ļ	ed Parent Mate	
Thick Dark Surface	, ,				leted Da		` '		<b>_</b> ′	rk Surface (TF12)
Sandy Mucky Mir	` '	,			lox Depre	,	,	L	ther (explain in	remarks)
2.5 cm Mucky Pe							ons (F16	6) *Ir	ndicators of hydrophyt	tic vegetation and weltand hydrology must be
5 cm Mucky Peat	or Peat	• •			RA 72, 73					unless disturbed or problematic
			neck her	e if indic	cators a	re not p	resent:	<b>✓</b>		
Restrictive Layer (in	f observ	ed):	_							
Type:				oth (inche	es):			H	ydric soil prese	nt? <u>N</u>
Remarks:										
-						-	file to m	eet F3.	Since sloping to	pography was present, and crop
stress was not appar	rent, are	a assum	ned to co	ntain up	land soil	ls.				
HYDROLOGY										
Wetland Hydrology	Indicate	ors.								
Primary Indicators (n			ie reauira	ad chac	k all that	(vlant			Socondary Ind	icators (minimum of two required)
Surface Water (A		OI OHE I	is require	su, crieci		st (B11)				icators (minimum of two required) Soil Cracks (B6)
High Water Table	,				L	Fauna (f	313)			ely Vegetated Concave Surface (B8)
Saturation (A3)	, (AZ)					•	e Odor (C	C1)		e Patterns (B10)
Water Marks (B1)	)						er Table	,		d Rhizospheres on Living Roots
Sediment Deposi	,						pheres o	. ,		
Drift Deposits (B3	. ,				•	not tilled)		3		Burrows (C8)
Algal Mat or Crus					Presenc	e of Red	luced Iro	n (C4)		on Visible on Aerial Imagery (C9)
Iron Deposits (B5					:	ck Surfa		, ,		phic Position (D2)
Inundation Visible		al Image	ry (B7)		Other (E	Explain in	Remark	s)	FAC-Ne	eutral Test (D5)
Water-Stained Le	eaves (B9	<b>∂</b> )			-				Frost-He	eaved Hummocks (LRR F)
		Ch	eck here	if indic	ators a	re not p	resent:	<b>√</b>		
Field Observations	:									
Surface water prese		Yes		No	$\checkmark$		inches):			
Water table present?	?	Yes		No	<b>✓</b>		inches):			licators of wetland
Saturation present?		Yes		No	$\checkmark$	Depth (	inches):		hy	/drology present? N
(includes capillary fri	· ·									
Desc	ribe rec	orded da	ata (strea	ım gaug	e, monit	oring we	ll, aerial	photos	, previous inspe	ctions), if available:
Remarks:										
Wetland hydrology ir	ndicators	absent								

Project/Site Falkirk Ethanol Plant Lateral (Blue F	Flint Line) City/	County:	McLean	Sampling Date:	5/5/21	
Applicant/Owner: WBI Energy Transmission,	Inc.	State:	ND	Sampling Point: Upland 7		
Investigator(s): LT/AG		Section	on, Township	p, Range: S20, T145N, R81W		
Landform (hillslope, terrace, etc.):	Plain	Local r	elief (concav	re, convex, none):	none	
Slope (%): 0 Lat: 47.3	71373	Long:	-101.0233	62 Datum:	WGS 84	
Soil Map Unit Name Williams-Bowbells lo	ams, 3 to 6 perce	ent slopes	NWI (	Classification:	-	
Subregion (MLRA or LRR): F	Are climatic/h	ydrologic cond	ditions of the	site typical for this time of th	ne year? Y	
Are vegetation , soil , or hydrology	significantly	disturbed?	Are "nor	mal circumstances" present	? Y	
Are vegetation , soil , or hydrology	naturally pr	oblematic?	(If neede	ed, explain any answers in re	marks.)	
<b>SUMMARY OF FINDINGS - Attach site</b>	map showing	sampling	point loca	tions, transect, import	ant features, etc.	
Hydrophytic vegetation present?	N	Is the sa	ampled area	a within a wetland?	N	
Hydric soil present?	N					
Indicators of wetland hydrology present?	N					
Remarks: (Explain alternative procedures here o	or in a separate re	eport.)				
Transect point taken to show upland status in old	d historic homest	ead.				
VEGETATION - Use scientific names of	f plants.					
	Absolute	Dominant	Indicator	Dominance Test Worksh	eet	
Tree Stratum (Plot size: 30 ft	_) % Cover	Species	Staus	Number of Dominant Specie		
1 Fraxinus pennsylvanica	30	Y	FAC	that are OBL, FACW, or FAC	C: 1 (A)	
2				Total Number of Domina		
3				Species Across all Strate		
5	<u> </u>			Percent of Dominant Specie that are OBL, FACW, or FAC		
	30	= Total Cover		,,,	(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Sapling/Shrub stratum (Plot size: 15 ft	)	•		Prevalence Index Works	heet	
1				Total % Cover of:		
2					1 = 0	
3				· —	2 = 0	
5				· —	3 = 90	
		= Total Cover		· —	5 = 500	
Herb stratum (Plot size: 5 ft	)	' Total Govol		Column totals 130 (A		
1 Bromus inermis	100	Υ	UPL	Prevalence Index = B/A =	4.54	
2						
3				Hydrophytic Vegetation I		
4				Rapid test for hydroph		
56				Dominance test is >50 Prevalence index is ≤3		
7				<del></del>		
8				Morphogical adaptatio supporting data in Rer		
9				separate sheet)		
10				Problematic hydrophyt	ic vegetation*	
	100	= Total Cover		(explain)		
Woody vine stratum (Plot size: 30 ft	)			*Indicators of hydric soil and w	, ,,	
1				present, unless disturbe	ed or problematic	
2	0	= Total Cover		Hydrophytic vegetation		
% Bare Ground in Herb Statum 0	U	- Total Covel		present? N		
Remarks: (Include photo numbers here or on a s	separate sheet)					
Upland vegetation dominates.	,					

SOIL										Samp	ling Point:	Upland 7
Profile Description	: (Desc	ribe to t	he dept	h neede	d to do	cument	the indi	cator c	or confir	m the a	bsence of indic	ators.)
		Matrix				Mottles						
Depth (Inches)	Color	(moist)	%	Color	(moist)	%	Type*	Loc**	Tex	ture	Re	emarks
, ,					) /		<del>  ''</del>					
	1											
	<u> </u>			<u></u>	<u> </u>	<u> </u>	<u> </u>		<u></u>	4.4.4		
Type: C = Concentra			on, RM :	= Reduc	ed Matri	ix, MS =	Masked					re Lining, M = Mat
Hydric Soil Ind	icators:			□h			(0.4)	_			Problematic Hyd	dric Soils:
Histisol (A1) Histic Epipedon	(A2)				ndy Gleye ndy Redo		((54)	Ļ		٠,	(LRR I,J) dox (A16) (LRR K	I P\
Black Histic (A3)	` '				pped Ma			<u> </u>			7) (LRR K, L)	, <b>L</b> , K)
Hydrogen Sulfide					my Muck	, ,	al (F1)	į				RR H, outside MLRA
Stratified Layers	. , .	•			my Gley			-	72,73)			
1 cm Muck (A9)			1)		oleted Ma	, ,		-		Vertic	` '	
Depleted Below I Thick Dark Surfa			· <i>)</i>		dox Dark oleted Da		` '	ļ			erial (TF2) irk Surface (TF12	v)
Sandy Mucky Mi	, ,				dox Depre		` '	<u> </u>			remarks)	,
2.5 cm Mucky Pe			RR G,H)		h Plains l				`		,	
5 cm Mucky Pea	t or Peat	(S3) (LRI	₹ F)	(ML	RA 72, 73	of LRR H	1)	*Ir	ndicators of		tic vegetation and we unless disturbed or pr	Itand hydrology must be
		Ch	eck her	e if indi	cators a	re not p	resent:	<b>√</b>		procent	ariioso distarbod or pr	obiomatio
Restrictive Layer (	f observ	ved):										
Type:			Dep	oth (inch	es):			H	ydric so	il prese	ent? N	
Remarks:												
Soils not excavated	since ar	ea was c	dominate	d by up	and veg	etation a	and lacke	ed hydr	ology inc	licators.		
								-				
HYDROLOGY												
Wetland Hydrology												
Primary Indicators (		<u>ı of one i</u>	s require	ed; chec						-	·	m of two required)
Surface Water (A	,			<u> </u>		ıst (B11)					Soil Cracks (B6)	
High Water Table	∍ (A2)				Aquatic			34)				ncave Surface (B8)
Saturation (A3) Water Marks (B1	1)				= -		e Odor (0 ter Table			_	e Patterns (B10) d Rhizospheres o	
Sediment Depos					= '		pheres o			(tilled) (	•	TI LIVING ROOLS
Drift Deposits (B					_	not tilled)	•	ii Liviiig	·		Burrows (C8)	
Algal Mat or Crus	-				_		duced Iro	n (C4)		-	on Visible on Aer	ial Imagery (C9)
☐Iron Deposits (B					=	ick Surfa		, ,			rphic Position (D2	
Inundation Visibl	e on Aeri	al Image	ry (B7)		Other (E	Explain ir	n Remark	(s)			eutral Test (D5)	
Water-Stained Lo	eaves (B	9)								Frost-H	eaved Hummocks	s (LRR F)
		Che	eck here	if indic	cators a	re not p	resent:	<b>√</b>				
Field Observations		V				D-: " /						
Surface water prese Water table present		Yes Yes	H	No No	√ √		(inches): (inches):			Inc	dicators of wetla	and
Saturation present?		Yes	H	No	H		inches):				drology preser	
1						, ,	, ,					

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland hydrology indicators absent.

(includes capillary fringe)

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line) City/0	County:	McLean	Sampling Date:	5/5/21
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND	Sampling Point:	Upland 8
Investigator(s): LT/AG	Section	ı, Township	, Range: S24, T14	45N, R82W
Landform (hillslope, terrace, etc.): depression	Local reli	ief (concave	e, convex, none):	concave
Slope (%): 1-2 Lat: 47.371243	Long:	-101.05966	Datum:	WGS 84
Soil Map Unit Name Roseglen silt loam, 0 to 2 percent s	slopes	NWI C	lassification:	-
Subregion (MLRA or LRR): F Are climatic/hy	drologic condit	tions of the	site typical for this time of th	e year? Y
Are vegetation $\  \  \  \  \  \  \  \  \  \  \  \  \ $	disturbed?	Are "norn	nal circumstances" present?	N
Are vegetation $\  \  \  \  \  \  \  \  \  \  \  \  \ $	oblematic?	(If neede	d, explain any answers in re	marks.)
SUMMARY OF FINDINGS - Attach site map showing	sampling po	oint locat	tions, transect, importa	ant features, etc.
Hydrophytic vegetation present? N	Is the san	npled area	within a wetland?	<u> </u>
Hydric soil present? N				
Indicators of wetland hydrology present? N				
Remarks: (Explain alternative procedures here or in a separate re	port.)			
Transect point taken in depression in agricultural field that appear	ed saturated or	n aerial ima	ges. Area determined to be	upland based on the
lack of hydric soils and hydrology indicators.				
VEGETATION - Use scientific names of plants.				
Absolute	Dominant II	ndicator	Dominance Test Worksho	eet
<u>Tree Stratum</u> (Plot size: 30 ft ) % Cover	Species	Staus	Number of Dominant Specie	
1			that are OBL, FACW, or FAC	` '
2			Total Number of Dominar Species Across all Strata	
4			Percent of Dominant Specie	``
5			that are OBL, FACW, or FAC	
0 :	= Total Cover	-		` ′
Sapling/Shrub stratum (Plot size: 15 ft )			Prevalence Index Worksh	neet
1			Total % Cover of:	
2			· —	1 = 0
3			· —	2 = <u>0</u> 3 = 0
5		_		4 = 0
	= Total Cover			5 = 0
Herb stratum (Plot size: 5 ft )			Column totals 0 (A	
1			Prevalence Index = $B/A$ =	
2				
3			Hydrophytic Vegetation I	
4			Rapid test for hydrophy Dominance test is >50	=
5		_	Prevalence index is ≤3	
7			Morphogical adaptation	
8		_	supporting data in Ren	
9			separate sheet)	
10			Problematic hydrophyt	ic vegetation*
	=Total Cover		(explain)	
Woody vine stratum (Plot size: 30 ft )			*Indicators of hydric soil and we	
			present, unless disturbe	ed or problematic
2	= Total Cover		Hydrophytic vegetation	
% Bare Ground in Herb Statum 100	- Total Cover		present? N	
Remarks: (Include photo numbers here or on a separate sheet)				_
Natural vegetation absent due to agricultural activities and drough wetland hydrology indicators	t conditions. Ar	rea assume	ed upland based on the lack	of hydric soils and

Profile Description	: (Desc	ribe to t	he dept	h neede	d to do	cument	the indi	cator c	or confirm the a	bsence of indicators.)	
		Matrix				Mottles					
Depth (Inches)	Color	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks	
0-6	10YR	2/1	100	00.0.	(	,,,	. )   0		Loam	. temante	
6-12	10YR	5/3	100						Clay Loam		
*											
Type: C = Concentra	ation. D =	= Depleti	on. RM	= Reduc	ed Matri	x. MS =	Masked	Sand	 Grains. **Lo	cation: PL = Pore Lining, M = Matri	
Hydric Soil Ind			,			,				Problematic Hydric Soils:	
Histisol (A1)				Sar	dy Gleye	ed Matrix	(S4)	Г	cm Muck (A9)	-	
Histic Epipedon (	(A2)				idy Redo		,	T		dox (A16) (LRR K, L, R)	
Black Histic (A3)				Stri	pped Mat	trix (S6)		Ī	ark Surface (S7		
Hydrogen Sulfide	(A4)			Loa	my Muck	ky Minera	al (F1)		igh Plains Depr	ressions (F16) (LRR H, outside MLRA	
Stratified Layers	. , .				my Gley		(F2)	_	72,73)		
1 cm Muck (A9)					oleted Ma	, ,	(E0)	-	educed Vertic	` ,	
Depleted Below I Thick Dark Surfa		ace (A11	1)		lox Dark		` '	L	ed Parent Mate	` ,	
Sandy Mucky Mi	, ,	١			oleted Da lox Depre		` '	F	ther (explain in	rk Surface (TF12)	
			RR G H)			,	,	;) 	trier (explain in	Terriarks)	
2.5 cm Mucky Peat or Peat (S2) (LRR G,H) High Plains Depressions (F16) 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72, 73 of LRR H) *Indicators of hydrophytic vegetation and weltand hydrology must be										ic vegetation and weltand hydrology must be	
present, unless disturbed or problematic											
Check here if indicators are not present:  Restrictive Layer (if observed):											
	. 0000.	ouj.	Der	oth (inch	es).			н	vdric soil nrese	nt? N	
	Type: Depth (inches): Hydric soil present? N										
Remarks:											
Hydric soils are abs	ent.										
HYDROLOGY											
Wetland Hydrology	Indicat	ors:								1	
Primary Indicators (			is require	ed: chec	k all that	apply)			Secondary Ind	icators (minimum of two required)	
Surface Water (A				<del> </del>	Salt Cru					Soil Cracks (B6)	
High Water Table	,			<u> </u>	Aquatic		313)			ly Vegetated Concave Surface (B8)	
Saturation (A3)	( )					•	e Odor (C	21)		e Patterns (B10)	
Water Marks (B1	)				, ,		er Table	,	= -	d Rhizospheres on Living Roots	
Sediment Depos							oheres or				
Drift Deposits (B					-	not tilled)		9		Burrows (C8)	
Algal Mat or Crus							uced Iron	n (C4)		on Visible on Aerial Imagery (C9)	
Iron Deposits (B					=	ck Surfa		(- )	=	phic Position (D2)	
Inundation Visible		al Image	ry (B7)		=		Remark	s)		utral Test (D5)	
Water-Stained Le			,		,	•		,		eaved Hummocks (LRR F)	
	•	Che	eck here	if indic	ators a	e not p	resent:	<b>/</b>		, ,	
Field Observations	:										
Surface water prese	nt?	Yes		No	<b>√</b>	Depth (	inches):				
Water table present	?	Yes		No	<b>√</b>	Depth (	inches):		Ind	licators of wetland	
Saturation present?		Yes		No	✓	Depth (	inches):		hy	drology present? N	
(includes capillary fr	inge)										
Des	.,	ordod da	ata (strea	am daud	e. monit	orina we	ll aerial	nhotos	nrevious inspe	ctions), if available:	
	cribe rec	orueu ua	100,00	<u> </u>	-,		ii, aciiai	prioros	s, previous mape	ctions), ii availabic.	
	cribe rec	orded da	ALC (01.00	arri gaag	, - ,		ii, a <del>c</del> iiai	priotos	s, previous irispe	otions), ii available.	
Remarks:	cribe rec	orded da	, i.a (01100	am gaag	,	<u> </u>	aciiai	priotos	s, previous irispe	olions), ii avaliabie.	
Remarks: Wetland hydrology i				ani gaag			iii, aciiai	priotos	s, previous inspe	olions), ii avaliabic.	

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line) City	y/County:	McLean	Sampling Date:	5/5/21
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND	Sampling Point:	Upland 9
Investigator(s): LT/AG	Section	on, Township,	Range: S23, T14!	5N, R82W
Landform (hillslope, terrace, etc.): toeslope	Local re	elief (concave	, convex, none):	onvex
Slope (%): 2 Lat: 47.369637	Long:	-101.082923	3 Datum:	WGS 84
Soil Map Unit Name Bowdle loam, 0 to 2 percent sl	opes	NWI CI	assification: P	EM1C
Subregion (MLRA or LRR): F Are climatic/h	hydrologic cond	ditions of the s	site typical for this time of the	year? Y
Are vegetation , soil , or hydrology significantl	ly disturbed?	Are "norm	nal circumstances" present?	N
Are vegetation , soil , or hydrology naturally p	roblematic?	(If needed	l, explain any answers in ren	narks.)
SUMMARY OF FINDINGS - Attach site map showing	g sampling	point locati	ions, transect, importa	nt features, etc.
Hydrophytic vegetation present? N	Is the sa	ampled area v	within a wetland? N	
Hydric soil present?				
Indicators of wetland hydrology present?				
Remarks: (Explain alternative procedures here or in a separate	report )			
Transect taken in NWI polygon within agricultural field. Natural v	. ,	ent due to agri	cultural activities and drough	nt conditions. Area
assumed upland based on the lack of hydric soils and wetland h			3	
VEGETATION - Use scientific names of plants.				
Absolute	Dominant	Indicator	Dominance Test Workshe	 et
<u>Tree Stratum</u> (Plot size: 30 ft ) % Cover		01	Number of Dominant Species	
1			that are OBL, FACW, or FAC:	
2			Total Number of Dominant	
3			Species Across all Strata:	0 (B)
			Percent of Dominant Species	
5			that are OBL, FACW, or FAC:	0.00% (A/B)
Sapling/Shrub stratum (Plot size: 15 ft )	=Total Cover	l	Prevalence Index Workshop	
1			Total % Cover of:	<del>70</del> 1
			OBL species 0 x 1	= 0
3			FACW species 0 x 2	= 0
4			FAC species 0 x 3	= 0
5			FACU species 0 x 4	= 0
0	_=Total Cover		UPL species 0 x 5	
Herb stratum (Plot size: 5 ft )			Column totals 0 (A)	0 (B)
			Prevalence Index = B/A =	
3			Hydrophytic Vegetation In	dicators:
4			Rapid test for hydrophyt	
5			Dominance test is >50%	=
6			Prevalence index is ≤3.0	0*
7			Morphogical adaptations	s* (provide
8			supporting data in Rema	arks or on a
9		.	separate sheet)	
10	- <del></del> .		Problematic hydrophytic	vegetation*
0	_ = Total Cover		(explain)	
Woody vine stratum (Plot size: 30 ft )			*Indicators of hydric soil and wetl present, unless disturbed	, ,,
		—— h	Hydrophytic	i oi problematic
	= Total Cover		vegetation	
% Bare Ground in Herb Statum 100			present? N	
Remarks: (Include photo numbers here or on a separate sheet)				
Natural vegetation absent due to agricultural activities and droug	ght conditions.	Area assumed	d hydrophytic based on the p	resence of hydric
soils and wetland hydrology indicators.				

<b>Profile Description</b>	: (Desc	ribe to t	he dept	h neede	d to do	cument	the indi	cator c	or confirm the a	bsence of indicators.)
		Matrix				Mottles				
Depth (Inches)	Color	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks
0-27	10YR	2/1	100		Í	<del>                                     </del>	7.		Clay Loam	
27-33	10YR	3/1	100	10YR	4/6	5	С	М	Clay Loam	
33-40	10YR	4/3	100				<b>†</b>		Clay Loam	
			1				<b>†</b>			
			[			<u> </u>	<u> </u>			
Type: C = Concentra		: Deplet	ion, RM	= Reduc	ed Matr	ix, MS =	Masked			ocation: PL = Pore Lining, M = Matri
Hydric Soil Ind	icators:					1.5.1 - 4	(0.4)	г		Problematic Hydric Soils:
Histisol (A1) Histic Epipedon (	(42)				ndy Gleye ndy Redo		(S4)	Ĺ	cm Muck (A9)	(LRR I,J) dox (A16) (LRR K, L, R)
Black Histic (A3)					pped Ma				ark Surface (S	
Hydrogen Sulfide					ımy Muck		al (F1)	Ì		ressions (F16) (LRR H, outside MLRA
Stratified Layers				Loa	ımy Gley	ed Matrix	x (F2)	-	72,73)	, , ,
1 cm Muck (A9)		•			oleted Ma	` ,		-	educed Vertic	` ,
Depleted Below I Thick Dark Surfa			1)		dox Dark oleted Da		` '	-	ed Parent Mate	erial (TF2) rk Surface (TF12)
Sandy Mucky Mi	, ,				dox Depre		` '	-	ther (explain in	
2.5 cm Mucky Pe	eat or Pea	, at (S2) <b>(L</b>				,	ions (F16			•
5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72, 73 of LRR H) *Indicators of hydrophytic vegetation and weltand hydrology must be										
Check here if indicators are not present:     Present, unless disturbed or problematic										
Restrictive Layer (if observed):										
Type:			Der	oth (inch	es):			H	ydric soil prese	ent? N
Remarks:										
Hydric soils absent.										
HYDROLOGY										
Wetland Hydrology	, Indicat	ors.								
Primary Indicators (			ie requir	ed chec	hall tha	t annly)			Secondary Ind	icators (minimum of two required)
Surface Water (A		OI OIIC	18 require	Ju, Criec		<u>гарріу)</u> ıst (В11)				Soil Cracks (B6)
High Water Table				<u> </u>	7	Fauna (E				ely Vegetated Concave Surface (B8)
Saturation (A3)	5 (MZ)			_		•	e Odor (C	21)		e Patterns (B10)
Water Marks (B1	)						ter Table		=	d Rhizospheres on Living Roots
Sediment Depos					= -		pheres o	. ,		
Drift Deposits (B				_		not tilled)				Burrows (C8)
Algal Mat or Crus							duced Iro	n (C4)		on Visible on Aerial Imagery (C9)
Iron Deposits (B5			(5.7)	L	=	ıck Surfa	. ,	,		rphic Position (D2)
Inundation Visible		U	ry (B7)	L	∫Other (E	Explain in	n Remark	.s)		eutral Test (D5)
Water-Stained Le	eaves (De	,		TO the allia		4	4-	<del>-</del>	Frost-ne	eaved Hummocks (LRR F)
Field Observations		Ch	eck here	) if inaic	ators a	re not p	resent:	✓		
Surface water prese		Yes		No	<b>V</b>	Depth (	inches):			
Water table present		Yes	H	No	\ \ \		inches):		Inc	licators of wetland
Saturation present?		Yes	H	No	\[\frac{1}{2}\]		inches):			/drology present? N
(includes capillary fr						•	•			
Desc	cribe rec	orded da	ata (stre	am gauç	e, monit	toring we	ell, aerial	photos	s, previous inspe	ections), if available:
					-			·		·
Remarks:										
Wetland hydrology i	ndicators	: absent	t							
TVollaria riyarology r	idiodioic	, aboont	•							

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line) City	y/County:	McLean	Sampling Date:	5/6/2021
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND	Sampling Point:	Upland 10
Investigator(s): LT/AG	Section	on, Township	o, Range: S23, T14	45N, R82W
Landform (hillslope, terrace, etc.): depression	Local re	elief (concav	e, convex, none):	concave
Slope (%): 0 Lat: 47.370192	Long:	-101.0923	61 Datum:	WGS 84
Soil Map Unit Name Williams-Bowbells loams, 3 to 6 per	cent slopes	NWI (	Classification:	PEM1C
Subregion (MLRA or LRR): F Are climatic/l	hydrologic cond	ditions of the	site typical for this time of th	e year? Y
Are vegetation , soil , or hydrology significant	ly disturbed?	Are "nor	mal circumstances" present?	P N
Are vegetation , soil , or hydrology naturally p	oroblematic?	(If neede	ed, explain any answers in re	marks.)
SUMMARY OF FINDINGS - Attach site map showin	g sampling	point loca	tions, transect, importa	ant features, etc.
Hydrophytic vegetation present? N	Is the sa	ampled area	within a wetland?	l
Hydric soil present? N				
Indicators of wetland hydrology present?				
Remarks: (Explain alternative procedures here or in a separate	report.)			
Transect taken in NWI polygon within agricultural field. Natural v		ent due to ag	ricultural activities and droug	ht conditions. Area
assumed upland based on the lack of hydric soils and wetland h				
VEGETATION - Use scientific names of plants.				
Absolute	Dominant	Indicator	Dominance Test Worksh	eet
<u>Tree Stratum</u> (Plot size: 30 ft ) % Cover		Staus	Number of Dominant Specie	s
1			that are OBL, FACW, or FAC	D:(A)
2			Total Number of Dominar	
3			Species Across all Strata	a: <u> </u>
			Percent of Dominant Specie	
50	= Total Cover	<del> </del>	that are OBL, FACW, or FAC	C: 0.00% (A/B)
Sapling/Shrub stratum (Plot size: 15 ft )	Total Cover		Prevalence Index Worksh	neet
1			Total % Cover of:	1001
2			OBL species 0 x	1 = 0
3			FACW species 0 x 2	2 = 0
4				3 = 0
5			·	4 = 0
0	_=Total Cover		· —	5 = 0
Herb stratum (Plot size: 5 ft )			Column totals 0 (A Prevalence Index = B/A =	(B)
2			Frevalence index - b/A -	
3			Hydrophytic Vegetation I	ndicators:
4			Rapid test for hydrophy	
5			Dominance test is >50	%
6			Prevalence index is ≤3	3.0*
7			Morphogical adaptation	
8			supporting data in Ren	narks or on a
9			separate sheet)	
10	= Total Cover		Problematic hydrophyt (explain)	ic vegetation"
Woody vine stratum (Plot size: 30 ft )	_		<del></del> · · · ·	-Manad brodenia
1			*Indicators of hydric soil and we present, unless disturbe	
2			Hydrophytic	
0	= Total Cover		vegetation	
% Bare Ground in Herb Statum100			present? N	
Remarks: (Include photo numbers here or on a separate sheet) Natural vegetation absent due to agricultural activities and droug soils and wetland hydrology indicators.	ght conditions.	Area assum	ed hydrophytic based on the	presence of hydric

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)    Matrix	Vlatri										
Depth (Inches)  Color (moist)  % Color (moist)  % Type* Loc**  O-6 10YR 2/1 100	Vatri										
0-6 10YR 2/1 100 Clay Loam 6-7 10YR 2/1 98 7.5YR 4/4 2 C M Clay Loam 7-14 10/YR 2/1 100 Clay  Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Hydric Soil Indicators:  Histisol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4)  Sandy Gleyed Matrix (S6) Stripped Matrix (S6) Loamy Mucky Mineral (F1)  Glay Loam Clay Loam **Location: PL = Pore Lining, M = Hydrogen Sulfide (A4)  Clay Loam Clay Loam Clay Loam Clay Loam **Location: PL = Pore Lining, M = Hydrogen Sulfide (A4)  Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6)	Vlatri										
6-7 10YR 2/1 98 7.5YR 4/4 2 C M Clay Loam 7-14 10/YR 2/1 100 Clay  Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Hydric Soil Indicators:  Histisol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4)  Sandy Gleyed Matrix (S6) Stripped Matrix (S6) Loamy Mucky Mineral (F1)  Grain Muck (A9) (LRR I, J) Oast Prairie Redox (A16) (LRR K, L, R) Igh Plains Depressions (F16) (LRR H, outside MI) Indicators for Problematic Hydric Soils: Indicators fo	Vlatri										
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Hydric Soil Indicators:    Histisol (A1)	Vlatri										
Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Hydric Soil Indicators:    Histisol (A1)	Vatri										
Hydric Soil Indicators:    Histisol (A1)	Matri										
Hydric Soil Indicators:    Histisol (A1)	Vlatri										
Hydric Soil Indicators:    Histisol (A1)	Matri										
Hydric Soil Indicators:    Histisol (A1)	Matri										
Hydric Soil Indicators:    Histisol (A1)	Matri										
Hydric Soil Indicators:    Histisol (A1)											
Histisol (A1) Sandy Gleyed Matrix (S4) Cm Muck (A9) (LRR I,J) Oast Prairie Redox (A16) (LRR K, L, R) Slack Histic (A3) Stripped Matrix (S6) Hydrogen Sulfide (A4) Sandy Redox (S5) Oast Prairie Redox (A16) (LRR K, L, R) Oark Surface (S7) (LRR K, L) Oamy Mucky Mineral (F1) Oigh Plains Depressions (F16) (LRR H, outside MI)											
Histic Epipedon (A2)  Sandy Redox (S5)  Oast Prairie Redox (A16) (LRR K, L, R)  Black Histic (A3)  Stripped Matrix (S6)  Hydrogen Sulfide (A4)  Sandy Redox (S5)  ark Surface (S7) (LRR K, L)  igh Plains Depressions (F16) (LRR H, outside MI)											
Hydrogen Sulfide (A4)  Loamy Mucky Mineral (F1)  ligh Plains Depressions (F16) (LRR H, outside MI)											
Stratified Layers (A5) (LRR F) Loamy Gleyed Matrix (F2) 72,73)	.RA										
Stratified Layers (A5) (LRR F) Loamy Gleyed Matrix (F2) 72,73) The company Gleyed Matrix (F3) Depleted Matrix (F3) Depleted Matrix (F3) The company Gleyed Matrix (F3) Depleted Matrix (F3) The company Gleyed Matrix (F2) The company Gleyed Matrix (F2) The company Gleyed Matrix (F3) The company Gleyed Matrix (F3) The company Gleyed Matrix (F3) The company Gleyed Matrix (F2) The company Gleyed Matrix (F2) The company Gleyed Matrix (F2) The company Gleyed Matrix (F3) The company Gleyed Matrix (F3											
Depleted Below Dark Surface (A11)  Redox Dark Surface (F6)  Redox Dark Surface (F6)											
Thick Dark Surface (A12) Depleted Dark Surface (F7) ery Shallow Dark Surface (TF12)											
Sandy Mucky Mineral (S1)  Redox Depressions (F8)  ther (explain in remarks)											
2.5 cm Mucky Peat or Peat (S2) (LRR G,H) High Plains Depressions (F16)  5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72, 73 of LRR H) *Indicators of hydrophytic vegetation and weltand hydrology must be											
present, unless disturbed or problematic											
Check here if indicators are not present: ✓											
Restrictive Layer (if observed):											
Type: Depth (inches): Hydric soil present? N											
Remarks:											
Hydric soils are absent.											
L HYDROLOGY											
Wetland Hydrology Indicators:											
	od)										
Primary Indicators (minimum of one is required; check all that apply)  Secondary Indicators (minimum of two required; check all that apply)  Surface Water (A1)  Surface Soil Cracks (B6)	eu)										
Surface Water (A1)   Surface Soft Cracks (B0)   High Water Table (A2)   Aquatic Fauna (B13)   Sparsely Vegetated Concave Surface (B13)	B8)										
Saturation (A3)  Hydrogen Sulfide Odor (C1)  Drainage Patterns (B10)	20)										
Water Marks (B1)  Dry Season Water Table (C2)  Oxidized Rhizospheres on Living Roots											
Sediment Deposits (B2) Oxidized Rhizospheres on Living (tilled) (C3)											
Drift Deposits (B3)  Roots (not tilled) (C3)  Crayfish Burrows (C8)											
Algal Mat or Crust (B4)  Presence of Reduced Iron (C4)  Saturation Visible on Aerial Imagery (C9)	)										
Iron Deposits (B5) Thin Muck Surface (C7) Geomorphic Position (D2)											
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5)											
Inundation Visible on Aerial Imagery (B7)  Other (Explain in Remarks)  FAC-Neutral Test (D5)  Water-Stained Leaves (B9)  Frost-Heaved Hummocks (LRR F)											
☐ Inundation Visible on Aerial Imagery (B7)       ☐ Other (Explain in Remarks)       ☐ FAC-Neutral Test (D5)         ☐ Water-Stained Leaves (B9)       ☐ Frost-Heaved Hummocks (LRR F)    Check here if indicators are not present:											
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5)  Water-Stained Leaves (B9) Frost-Heaved Hummocks (LRR F)  Check here if indicators are not present:  Field Observations:											
Inundation Visible on Aerial Imagery (B7)											
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5)  Water-Stained Leaves (B9) Frost-Heaved Hummocks (LRR F)  Check here if indicators are not present:  Field Observations:  Surface water present? Yes No Depth (inches):  Water table present? Yes Depth (inches): Indicators of wetland											
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5)  Water-Stained Leaves (B9) Frost-Heaved Hummocks (LRR F)  Check here if indicators are not present:  Field Observations:  Surface water present? Yes No Depth (inches):  Water table present? Yes No Depth (inches):  Saturation present? Yes No Depth (inches):  Depth (inches):  Indicators of wetland hydrology present? N											
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5)  Water-Stained Leaves (B9) Frost-Heaved Hummocks (LRR F)  Check here if indicators are not present:  Field Observations:  Surface water present? Yes No Depth (inches):  Water table present? Yes No Depth (inches):  Saturation present? Yes No Depth (inches):  Saturation present? Yes No Depth (inches):  (includes capillary fringe)											
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5)  Water-Stained Leaves (B9) Frost-Heaved Hummocks (LRR F)  Check here if indicators are not present:  Field Observations:  Surface water present? Yes No Depth (inches):  Water table present? Yes No Depth (inches):  Saturation present? Yes No Depth (inches):  Depth (inches):  Indicators of wetland hydrology present? N											
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5)  Water-Stained Leaves (B9) Frost-Heaved Hummocks (LRR F)  Check here if indicators are not present:  Field Observations:  Surface water present? Yes No Depth (inches):  Water table present? Yes No Depth (inches):  Water table present? Yes No Depth (inches):  Indicators of wetland hydrology present?  N (includes capillary fringe)  Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:											
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5)  Water-Stained Leaves (B9) Frost-Heaved Hummocks (LRR F)  Check here if indicators are not present:  Field Observations:  Surface water present? Yes No Depth (inches):  Water table present? Yes No Depth (inches):  Saturation present? Yes No Depth (inches):  Saturation present? Yes No Depth (inches):  (includes capillary fringe)											

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Lin	ne) City/	County:	McLean	Sampling Date: 5/6/	21
Applicant/Owner: WBI Energy Transmission, Inc.		State:	ND	Sampling Point: Uplan	d 11
Investigator(s): LT/AG		Section	n, Township	o, Range: S17, T145N, R82V	/
Landform (hillslope, terrace, etc.): toeslo	pe	Local re	elief (concav	e, convex, none): convex	
Slope (%): 3 Lat: 47.372591	-	Long:	-101.1503		
Soil Map Unit Name Arnegard loam, 0 to 2	percent slo		NWI (	Classification: -	
		•	 litions of the	site typical for this time of the year?	Υ
·	-	disturbed?		mal circumstances" present? Y	
		oblematic?	(If neede	ed, explain any answers in remarks.)	
SUMMARY OF FINDINGS - Attach site map			point loca	tions, transect, important featu	res, etc.
Hydrophytic vegetation present? N	Ĭ			within a wetland?	,
Hydric soil present? N	1		•	<del></del>	
Indicators of wetland hydrology present?	•				
Remarks: (Explain alternative procedures here or in a s	senarate re	nort )			
Transect point taken in stormwater ditch to show uplan	•	port.)			
Transcot point taken in eterminater altern to eriew apian	a otatao.				
VEGETATION - Use scientific names of plan	nte.				
VEGETATION - Ose scientific fiames of plan	Absolute	Dominant	Indicator	Dominance Test Worksheet	
Tree Stratum (Plot size: 30 ft )	% Cover	Species	Staus	Number of Dominant Species	
1		'		that are OBL, FACW, or FAC: 0	(A)
2				Total Number of Dominant	``
3				Species Across all Strata: 2	(B)
4				Percent of Dominant Species	
5				that are OBL, FACW, or FAC: 0.00%	(A/B)
Cardina/Ohmuh atratura (DL)	0	= Total Cover		December of the World Land	
Sapling/Shrub stratum (Plot size: 15 ft )				Prevalence Index Worksheet	
2				Total % Cover of:  OBL species 0 x 1 = 0	
3				FACW species $0 \times 2 = 0$	
4				FAC species $0 \times 3 = 0$	
5				FACU species 30 x 4 = 12	0
	0	= Total Cover		UPL species 60 x 5 = 30	0
Herb stratum (Plot size: 5 ft )				Column totals 90 (A) 42	0 (B)
1 Bromus inermis	60	<u>Y</u>	UPL	Prevalence Index = B/A = 4.67	
2 Elymus repens	20	<u>Y</u> .	FACU		
3 Poa pratensis	10	<u>N</u>	FACU	Hydrophytic Vegetation Indicators	
5				Rapid test for hydrophytic vegeta  Dominance test is >50%	uon
6				Prevalence index is ≤3.0*	
7				Morphogical adaptations* (provid	۵
8				supporting data in Remarks or or	
9				separate sheet)	
10				Problematic hydrophytic vegetation	on*
	90	= Total Cover	_	(explain)	
Woody vine stratum (Plot size: 30 ft )				*Indicators of hydric soil and wetland hydrolo	gy must be
1				present, unless disturbed or problem	atic
2		- Total Cave		Hydrophytic vegetation	
% Bare Ground in Herb Statum 10	0	= Total Cover		present?	
Remarks: (Include photo numbers here or on a separat	te sheet)				
Upland vegetation dominates on edges of road ditch. T		ound is grave	I surface fro	m the exisiting road.	
-	-	-			

Profile Description:	: (Desc	ribe to t	he depti	n neede	d to do	cument	the indi	cator o	or confirm the a	bsence of indicators.)				
	-	Matrix				Mottles								
Depth (Inches)	Color (	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks				
1 , ,		ř – †				<del>                                     </del>	<del> </del>							
		,												
		/ <u> </u>				<u> </u>								
		['												
		<u> </u>												
		<u> </u>	L	ļ		<u> </u>								
		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>		igsqcup						
To a Cancentre	" D -	Deplot	· DM	Dadu	Matri	· MC =	Macked	Cand	·: **I o	. C. Di - Dere Lining M - Matri				
Type: C = Concentra		Depleu	on, Kıvı -	= Reduc	ed Matri	X, M5 =	Maskeu			cation: PL = Pore Lining, M = Matri				
Hydric Soil Indi Histisol (A1)	cators.			□Sar	ndy Gleye	ad Matriy	(8/)	Г	Indicators for P	roblematic Hydric Soils:				
Histic Epipedon (	Δ2)				idy Gleye idy Redo		(34)	<u> </u>		dox (A16) (LRR K, L, R)				
Black Histic (A3)	72)				pped Mat			}	ark Surface (S7					
Hydrogen Sulfide	(A4)				my Muck		al (F1)	ľ		ressions (F16) (LRR H, outside MLRA				
Stratified Layers	` '	₹ F)		Loa	my Gleye	ed Matrix	(F2)	-	72,73)	( 2/( )				
1 cm Muck (A9) (	LRR F,G,I	H)			oleted Ma				_educed Vertic	` ,				
Depleted Below D			1)		dox Dark		` '	Ļ	ed Parent Mate	,				
Thick Dark Surface	` ,				oleted Da		` '	Ļ		rk Surface (TF12)				
Sandy Mucky Mir	, ,	,	20 C U/		dox Depre	,	,	"	ther (explain in	remarks)				
		t or Peat (S2) (LRR G,H) High Plains Depressions (F16) or Peat (S3) (LRR F) (MLRA 72, 73 of LRR H) *Indicators of hydrophytic vegetation and weltand hydrology must						ic vegetation and weltand hydrology must be						
p oin mac,	present, unless disturbed or problematic													
Restrictive Layer (in	f observ		eck nere	# II IIIuii	caluis a	re not p	resent.	<b>✓</b>						
Type:	UDGC: .	euj.	Der	oth (inch	ee).			Н	ydric soil prese	nt? N				
				Depth (inches): Hydric soil present? N					III.:					
Remarks:														
Soils assumed uplar	id, but pi	ts not ex	cavated	due to	buriea ui	tilities.								
HYDROLOGY			<del>-</del>											
Wetland Hydrology			_	_	_	_	_	_						
Primary Indicators (r	<u>ninimum</u>	of one i	s require	₃d; chec	k all that	t apply)				icators (minimum of two required)				
Surface Water (A	.1)				1	ıst (B11)				Soil Cracks (B6)				
High Water Table	(A2)				= '	Fauna (E				ly Vegetated Concave Surface (B8)				
Saturation (A3)							e Odor (C	,	Drainag	e Patterns (B10)				
☐Water Marks (B1)	)				= -		er Table			Rhizospheres on Living Roots				
Sediment Deposi	` '				-		pheres or	n Living		'E'				
Drift Deposits (B3				_		not tilled)				Burrows (C8)				
Algal Mat or Crus				L			luced Iror	n (C4)		on Visible on Aerial Imagery (C9)				
Iron Deposits (B5					=	ick Surfa	` '			phic Position (D2)				
Inundation Visible	on Aeria	_	ry (B7)		]Other (E	Explain in	Remark	s)	=	utral Test (D5)				
				') Uother (Explain in Remarks) FAC-Neutral Test (D5) Frost-Heaved Hummocks (LRR F)										
Water-Stained Le	aves (B9	9)								, ,				
]	,	,	eck here	if indic	ators a	re not p	resent:	<b>√</b>	-					
Field Observations	:	Che	eck here		ators a	•		<b>√</b>		` , ,				
Field Observations Surface water prese	: nt?	Che Yes	eck here	No	<b>✓</b>	Depth (i	inches):	✓		· ·				
Field Observations Surface water present? Water table present?	: nt?	Yes Yes	eck here	No No	\ \	Depth (i	inches):	<b>✓</b>		licators of wetland				
Field Observations Surface water present? Saturation present?	: nt? ?	Che Yes	eck here	No	<b>✓</b>	Depth (i	inches):	✓ 		· · ·				
Field Observations Surface water prese Water table present? Saturation present? (includes capillary fri	: nt? ? inge)	Yes Yes Yes Yes		No No No	\ \ \	Depth (i Depth (i Depth (i	inches): inches): inches):		hy	licators of wetland rdrology present? N				
Field Observations Surface water prese Water table present? Saturation present? (includes capillary fri	: nt? ? inge)	Yes Yes Yes Yes		No No No	\ \ \	Depth (i Depth (i Depth (i	inches): inches): inches):		hy	licators of wetland				
Field Observations Surface water prese Water table present? Saturation present? (includes capillary fri	: nt? ? inge)	Yes Yes Yes Yes		No No No	\ \ \	Depth (i Depth (i Depth (i	inches): inches): inches):		hy	licators of wetland rdrology present? N				
Field Observations Surface water prese Water table present? Saturation present? (includes capillary fri	: nt? ? inge) cribe reco	Yes Yes Yes Orded da	ata (strea	No No No	\ \ \	Depth (i Depth (i Depth (i	inches): inches): inches):		hy	licators of wetland rdrology present? N				

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line) Ci	ty/County:	McLean	Sampling Date:	5/6/21
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND	Sampling Point:	Upland 12
Investigator(s): LT/AG	Section	on, Township	p, Range: S15, T145N	1, R82W
Landform (hillslope, terrace, etc.): toeslope	Local re	elief (concav	ve, convex, none): cor	nvex
Slope (%): 3 Lat: 47.372711	Long:	-101.1095	21 Datum: W	/GS 84
Soil Map Unit Name Harriet-Regan-Stirum complex, 0 to 2	percent slopes	NWI (	Classification:	-
Subregion (MLRA or LRR): F Are climatic	hydrologic cond	ditions of the	site typical for this time of the y	/ear? Y
Are vegetation , soil , or hydrology significan	tly disturbed?	Are "nor	mal circumstances" present?	Υ
Are vegetation , soil , or hydrology naturally	problematic?	(If neede	– ed, explain any answers in rema	irks.)
SUMMARY OF FINDINGS - Attach site map showing	ng sampling	point loca	tions, transect, important	t features, etc.
Hydrophytic vegetation present? N	Is the sa	ampled area	a within a wetland? N	
Hydric soil present? N				_
Indicators of wetland hydrology present?				
Remarks: (Explain alternative procedures here or in a separate	report )			
Transect point taken in NWI polygon within an exisiting road.	, roport.)			
1 73				
VEGETATION - Use scientific names of plants.				
Absolut	te Dominant	Indicator	Dominance Test Worksheet	 :
Tree Stratum (Plot size: 30 ft ) % Cove		Staus	Number of Dominant Species	
1			that are OBL, FACW, or FAC:	0 (A)
2			Total Number of Dominant	
3			Species Across all Strata:	2 (B)
4			Percent of Dominant Species	
5	- T-4-1 O		that are OBL, FACW, or FAC:	0.00% (A/B)
Sapling/Shrub stratum (Plot size: 15 ft )	= Total Cover		Prevalence Index Workshee	
1			Total % Cover of:	,,
	<del>_</del>		OBL species 0 x 1 =	. 0
3	<del>_</del>		FACW species 0 x 2 =	
4			FAC species 0 x 3 =	0
5			FACU species 20 x 4 =	80
0	= Total Cover		UPL species 20 x 5 =	
Herb stratum (Plot size: 5 ft )	.,		Column totals 40 (A)	180 (B)
1 Bromus inermis 20	<u>Y</u>	UPL	Prevalence Index = B/A =	4.50
2 Elymus repens 20	<u> </u>	FACU	Hydrophytic Vegetation Indi	icators
3			Rapid test for hydrophytic	
5	<del>_</del>		Dominance test is >50%	vogotation
6	<del>_</del>		Prevalence index is ≤3.0*	
7			Morphogical adaptations*	(provide
8			supporting data in Remar	**
9			separate sheet)	
10	<del></del> -		Problematic hydrophytic v	/egetation*
40	=Total Cover		(explain)	
Woody vine stratum (Plot size: 30 ft )			*Indicators of hydric soil and wetlar	
2			present, unless disturbed o <b>Hydrophytic</b>	problematic
	= Total Cover		vegetation	
% Bare Ground in Herb Statum 60	22		present? N	
Remarks: (Include photo numbers here or on a separate sheet	•			
Upland vegetation dominates on ediges of road ditch. The bare	ground is grave	el surface fro	om the exisiting road.	

<b>Profile Description</b>	: (Desc	ribe to t	he dept	h neede	d to do	cument	the indi	cator c	or confirm the a	bsence of indicators.)				
		Matrix				Mottles								
Depth (Inches)	Color	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks				
		Ì			Ì		7.							
Type: C = Concentra		= Deplet	on, RM	= Reduc	ed Matr	ix, MS =	Masked			cation: PL = Pore Lining, M = Matri				
Hydric Soil Indi	icators:							_		Problematic Hydric Soils:				
Histisol (A1)						ed Matrix	(S4)	Ļ	cm Muck (A9)					
Histic Epipedon (	A2)				ndy Redo			ļ		dox (A16) (LRR K, L, R)				
Black Histic (A3) Hydrogen Sulfide	(Δ4)				pped Ma	trix (S6) ky Minera	al (F1)	}	ark Surface (S7	ressions (F16) (LRR H, outside MLRA				
Stratified Layers		R F)				ed Matrix		L		essions (1 10) (ERR II, outside MERA				
1 cm Muck (A9) (						atrix (F3)		[	educed Vertic	(F18)				
Depleted Below [		face (A1	1)			Surface	` '	[	ed Parent Mate					
Thick Dark Surfa	` ,	,				rk Surfa	` '	ļ		rk Surface (TF12)				
Sandy Mucky Mir 2.5 cm Mucky Pe	•	,	DD C U/			essions (	,	٠, [	ther (explain in	remarks)				
		or Peat (S2) (LRR G,H) High Plains Depressions (F16) Peat (S3) (LRR F) (MLRA 72, 73 of LRR H) *Indicators of hydrophytic vegetation and weltand hydrology mu							ic vegetation and weltand hydrology must be					
	present, unless disturbed or problematic								unless disturbed or problematic					
Restrictive Layer (i	fohsory		eck ner	e II Indi	cators a	ire not p	resent:	<b>✓</b>						
Type:	i observ	reuj.	Der	oth (inch	oc).			н	vdric soil prese	nt? N				
Remarks:			Depth (inches): Hydric soil present? N					III.: <u>N</u>						
	y presen	it on eith	er side o	of the ex	isiting ro	ad, but	the surve	ey corri	dor does not ext	ent beyond the exisiting roadway.				
HYDROLOGY														
Wetland Hydrology														
Primary Indicators (r		of one	is require	ed; chec						icators (minimum of two required)				
Surface Water (A	•			<u> </u>	1	ıst (B11)	240)			Soil Cracks (B6)				
High Water Table	e (A2)					Fauna (I	313) e Odor (C	24)		ely Vegetated Concave Surface (B8) e Patterns (B10)				
Saturation (A3) Water Marks (B1	\			F			er Table	,	= -	d Rhizospheres on Living Roots				
Sediment Deposi				H			pheres o	` '						
Drift Deposits (B3	. ,				_	not tilled)	•	ii Liviiig		Burrows (C8)				
Algal Mat or Crus							luced Iro	n (C4)		on Visible on Aerial Imagery (C9)				
Iron Deposits (B5					=	ick Surfa		` '		phic Position (D2)				
Inundation Visible	e on Aeri	al Image	ry (B7)		Other (E	Explain in	Remark	s)	FAC-Ne	utral Test (D5)				
Water-Stained Le	eaves (B	9)							Frost-He	eaved Hummocks (LRR F)				
		Che	eck here	if indic	ators a	re not p	resent:	<b>√</b>						
Field Observations														
Surface water prese		Yes	Ц	No	✓		inches):							
Water table present	?	Yes		No	✓		inches):			licators of wetland				
Saturation present? (includes capillary from	ingo)	Yes		No	✓	Depth (	inches):		ny	drology present? N				
			-4- /-4							ations) if sucilable				
Desc	cribe rec	oraea aa	ata (strea	am gaug	e, monit	oring we	eii, aeriai	pnotos	s, previous inspe	ctions), if available:				
Remarks:							_							
Wetland hydrology ii	ndicators	s absent	-											

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line) City/0	County:	McLean S	Sampling Date:	8/6/2021
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND S	Sampling Point:	Upland 13
Investigator(s): LT/AG	Section,	Township, Range:	S13, T145N	I, R82W
Landform (hillslope, terrace, etc.): plains	Local relief	(concave, convex,	none): no	one
Slope (%): 0 Lat: 47.380775	Long: -	01.078381 E	Datum: W	/GS 84
Soil Map Unit Name Falkirk loam, 0 to 3 percent slop	es	NWI Classification	on: RS4	4BC
Subregion (MLRA or LRR): F Are climatic/hy	drologic conditio	ns of the site typical	I for this time of the ye	ear? Y
Are vegetation $\  \  \  \  \  \  \  \  \  \  \  \  \ $	disturbed?	Are "normal circum	stances" present? _	Υ
Are vegetation $\  \  \  \  \  \  \  \  \  \  \  \  \ $	blematic?	(If needed, explain	any answers in rema	rks.)
SUMMARY OF FINDINGS - Attach site map showing	sampling poi	nt locations, tra	insect, important	features, etc.
Hydrophytic vegetation present? N	Is the samp	oled area within a v	wetland? N	_
Hydric soil present? N				
Indicators of wetland hydrology present? N				
Remarks: (Explain alternative procedures here or in a separate re	port.)			
Transect point taken in an NWI polygon. Area determined to be up		ne dominance of up	land vegetation and la	ack of hydric soils
and hydrology indicators.				
VEGETATION - Use scientific names of plants.				
Absolute	Dominant Inc	licator Dominar	nce Test Worksheet	
<u>Tree Stratum</u> (Plot size:30 ft) % Cover	Species S		of Dominant Species	
		that are O	BL, FACW, or FAC:	0 (A)
			Number of Dominant	4 (D)
3			es Across all Strata:	1(B)
5			of Dominant Species BL, FACW, or FAC:	0.00% (A/B)
	Total Cover			<u>0.0070</u> (74B)
Sapling/Shrub stratum (Plot size: 15 ft )		Prevalen	nce Index Workshee	t
1		Total % 0	Cover of:	
2		OBL spec		0
3		FACW sp		0
		FAC spec		0
5	Total Cover	FACU sp		<u>80</u> 0
Herb stratum (Plot size: 5 ft )	- Total Covel	UPL spec		80 (B)
1 Bassia scoparia 20	Y F	_	ce Index = $B/A$ =	4.00
2			_	
3		Hydroph	ytic Vegetation Indi	cators:
4			d test for hydrophytic	vegetation
5			inance test is >50%	
6			alence index is ≤3.0*	
8			hogical adaptations*	
9			orting data in Remarl rate sheet)	(s or on a
10			lematic hydrophytic v	regetation*
	Total Cover	(expl		ogotation
Woody vine stratum (Plot size: 30 ft )		<del></del>	s of hydric soil and wetlan	nd hydrology must be
1			resent, unless disturbed or	, ,,
2		Hydr	ophytic	
	Total Cover	_	etation	
% Bare Ground in Herb Statum 80		pres	ent? N	
Remarks: (Include photo numbers here or on a separate sheet) Upland vegetation dominates, although most natural vegetation was appeared health and did not exhibit crop stress due to exessive was appeared.		agricultural activitie	es. Planted corn and s	sobyeans

		IDE IO I	ne depti	n neede	a to aoc	cument	the indi	cator o	or confirm the a	bsence of indicators.)
		Matrix				Mottles				
Depth (Inches)	Color (	(moist)	%	Color (	(moist)	%	Type*	Loc**	Texture	Remarks
0-6	10YR	4/3	100				71		Clay loam	
									,	
									_	
Type: C = Concentra		- Depleti	on, RM	= Reduc	ed Matri	x, MS =	Masked			cation: PL = Pore Lining, M = Matri
Hydric Soil Indi	cators:								Indicators for P	roblematic Hydric Soils:
Histisol (A1)					dy Gleye		(S4)		cm Muck (A9)	
Histic Epipedon (A	A2)				dy Redo			-		dox (A16) (LRR K, L, R)
Black Histic (A3) Hydrogen Sulfide	(ΔΔ)				oped Mat my Muck		J (F1)	H	ark Surface (S7	() (LRR K, L) essions (F16) (LRR H, outside MLRA
Stratified Layers (	` '	≀ F)			my Gleye			L	igii Piailis Depi 72,73)	essions (1 10) (LKK II, outside Milia
1 cm Muck (A9) (					leted Ma		,		educed Vertic	(F18)
Depleted Below D	Dark Surf		1)		lox Dark		` '		ed Parent Mate	` ,
Thick Dark Surface	,				leted Da		` '	-		rk Surface (TF12)
Sandy Mucky Mir 2.5 cm Mucky Pe			DD G H)	$\square$	lox Depre n Plains I	,	,	, L	ther (explain in	remarks)
5 cm Mucky Peat					า คเลเกร เ RA 72, 73		,			ic vegetation and weltand hydrology must be
,			eck her				-	$\sqrt{}$	present, u	nless disturbed or problematic
Restrictive Layer (if	fobserv		eck ner	3 II IIIun	Jaioi S u	le not b	lesein.			
Type:	Depth (inches):							Н	ydric soil prese	nt? N
Remarks:				. (					y with 55 in price	
Hydric soil indicators	ahsent									
Tryuno son maioatoro	abson.									
HYDROLOGY										
Wetland Hydrology										
Primary Indicators (n	ninimum		s require	ed; chec						icators (minimum of two required)
Primary Indicators (n	<u>minimum</u> ປາ)		s require		Salt Cru	st (B11)			Surface	Soil Cracks (B6)
Primary Indicators (n Surface Water (A High Water Table	<u>minimum</u> ປາ)		s require		Salt Cru Aquatic	st (B11) Fauna (E	,		Surface Sparse	Soil Cracks (B6) ly Vegetated Concave Surface (B8)
Primary Indicators (n Surface Water (A High Water Table Saturation (A3)	minimum (1) e (A2)		s require		Salt Cru Aquatic Hydroge	st (B11) Fauna (E en Sulfide	Odor (C	,	Surface Sparse Drainage	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10)
Primary Indicators (n Surface Water (A High Water Table Saturation (A3) Water Marks (B1)	minimum (1) e (A2) )		s require		Salt Cru Aquatic Hydroge Dry Sea	st (B11) Fauna (E en Sulfide son Wate	e Odor (C er Table	(C2)	Surface Sparse Drainage	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots
Primary Indicators (n Surface Water (A High Water Table Saturation (A3) Water Marks (B1) Sediment Deposi	minimum (1) e (A2) ) ts (B2)		<u>s require</u>		Salt Cru Aquatic Hydroge Dry Sea Oxidized	st (B11) Fauna (E en Sulfide son Wate d Rhizosp	e Odor (C er Table oheres or	(C2)	Surface Sparse Drainage Oxidized	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3)
Primary Indicators (n Surface Water (A High Water Table Saturation (A3) Water Marks (B1) Sediment Deposi Drift Deposits (B3)	minimum (1) e (A2) ) ts (B2) 3)		s require		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (n	st (B11) Fauna (Een Sulfide son Wate d Rhizosp not tilled)	e Odor (C er Table oheres or (C3)	(C2) n Living	Surface Sparse Drainage Oxidized (tilled) ((	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3) Burrows (C8)
Primary Indicators (n Surface Water (A High Water Table Saturation (A3) Water Marks (B1) Sediment Deposit Drift Deposits (B3 Algal Mat or Crus	minimum (1) (2) (A2) (3) (B2) (3) (B4)		s require		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (n	st (B11) Fauna (E en Sulfide son Wate d Rhizosp not tilled) e of Red	e Odor (Cer Table oheres or (C3) uced Iron	(C2) n Living	Surface Sparse Drainage Oxidized (tilled) (( Crayfish	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9)
Primary Indicators (n Surface Water (A High Water Table Saturation (A3) Water Marks (B1) Sediment Deposi Drift Deposits (B3)	minimum (1) (2) (A2) (3) (5) (5) (4) (B2) (6) (6)	of one i			Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (n Presenc	st (B11) Fauna (E n Sulfide son Wate d Rhizosp not tilled) se of Red ck Surfae	e Odor (Cer Table oheres or (C3) uced Iron	(C2) n Living n (C4)	Surface Sparse Drainage Oxidizec (tilled) (Cayfish Saturatic	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3) Burrows (C8)
Primary Indicators (n Surface Water (A High Water Table Saturation (A3) Water Marks (B1) Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5	minimum (1) (2) (A2) (3) (ts (B2) (3) (st (B4) (6) (6) (6) (6) (6) (6) (7) (7) (7) (8) (8) (9) (9) (9) (9) (9) (9) (9) (9) (9) (9	<u>of one i</u>			Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (n Presenc	st (B11) Fauna (E n Sulfide son Wate d Rhizosp not tilled) se of Red ck Surfae	e Odor (Cer Table oheres or (C3) uced Iron (C7)	(C2) n Living n (C4)	Surface Sparse Drainage Oxidizec (tilled) (( Crayfish Saturatic Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2)
Primary Indicators (n Surface Water (A High Water Table Saturation (A3) Water Marks (B1) Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5	minimum (1) (2) (A2) (3) (ts (B2) (3) (st (B4) (6) (6) (6) (6) (6) (6) (7) (7) (7) (8) (8) (9) (9) (9) (9) (9) (9) (9) (9) (9) (9	of one i al Image			Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (n Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wate d Rhizosp not tilled) ee of Red ck Surfac explain in	e Odor (C er Table oheres or (C3) uced Iror ce (C7) Remark	(C2) n Living n (C4)	Surface Sparse Drainage Oxidizec (tilled) (( Crayfish Saturatic Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)
Primary Indicators (n Surface Water (A High Water Table Saturation (A3) Water Marks (B1) Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le	minimum (1) (2) (A2) (3) (ts (B2) (3) (st (B4) (5) (e) (e) (e) (e) (e) (e) (e) (e) (e) (e	of one i al Image	ry (B7)		Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (n Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wate d Rhizosp not tilled) ee of Red ck Surfac explain in	e Odor (C er Table oheres or (C3) uced Iror ce (C7) Remark	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidizec (tilled) (( Crayfish Saturatic Geomor	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5)
Primary Indicators (n Surface Water (A High Water Table Saturation (A3) Water Marks (B1) Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le	minimum (1) (2) (A2) (b) (ts (B2) (B3) (c) (t (B4) (d) (d) (e) (e) (e) (e) (e) (f) (f) (f) (f) (f) (f) (f) (f) (f) (f	al Image  Che	ry (B7)	if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (n Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wate d Rhizosp not tilled) se of Red ck Surfae explain in  Te not pi	e Odor (Cer Table otheres or (C3) ucced Iron ce (C7) Remark resent:	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (C Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6)  ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)
Primary Indicators (n Surface Water (A High Water Table Saturation (A3) Water Marks (B1) Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water present	minimum (1) (2) (A2) (b) (ts (B2) (B3) (c) (t (B4) (d) (d) (e) (e) (e) (e) (e) (f) (f) (f) (f) (f) (f) (f) (f) (f) (f	al Image  Che  Yes Yes	ry (B7)	e if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (n Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wate d Rhizosp not tilled) se of Red ck Surfae explain in  Depth (i Depth (i	e Odor (Cer Table otheres or (C3) ucced Iron (C7) Remark resent:	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (C Crayfish Saturatio Geomor FAC-Ne Frost-He	Soil Cracks (B6)  ly Vegetated Concave Surface (B8) e Patterns (B10) If Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)
Primary Indicators (n Surface Water (A High Water Table Saturation (A3) Water Marks (B1) Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations Surface water present Saturation present?	minimum (1) (2) (A2) (3) (b) (b) (c) (B2) (c) (d) (d) (d) (d) (d) (d) (d) (d) (d) (d	al Image  Che	ry (B7)	if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (n Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wate d Rhizosp not tilled) se of Red ck Surfae explain in  Te not pi	e Odor (Cer Table otheres or (C3) ucced Iron (C7) Remark resent:	(C2) n Living n (C4) s)	Surface Sparse Drainage Oxidized (tilled) (C Crayfish Saturatio Geomor FAC-Ne Frost-He	Soil Cracks (B6)  ly Vegetated Concave Surface (B8) e Patterns (B10) If Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)
Primary Indicators (n Surface Water (A High Water Table Saturation (A3) Water Marks (B1) Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations: Surface water present Water table present? Saturation present? (includes capillary fri	minimum  (1) (2) (A2) (3) (ts (B2) (3) (st (B4) (5) (e on Aeria eaves (B9 (e on Aeria	al Image  Ohe  Yes  Yes  Yes  Yes	ry (B7) eck here	if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (n Presenc Thin Mu Other (E	st (B11) Fauna (Een Sulfide son Water Rhizosphot tilled) the of Red ck Surface Explain in Depth (i Depth (i Depth (i	e Odor (Cer Table bheres or (C3) uced Iror (C7) Remark resent: inches): inches):	(C2) In Living In (C4) In (C4) In (C4)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) If Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)
Primary Indicators (n Surface Water (A High Water Table Saturation (A3) Water Marks (B1) Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations: Surface water present Water table present? Saturation present? (includes capillary fri	minimum  (1) (2) (A2) (3) (ts (B2) (3) (st (B4) (5) (e on Aeria eaves (B9 (e on Aeria	al Image  Ohe  Yes  Yes  Yes  Yes	ry (B7) eck here	if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (n Presenc Thin Mu Other (E	st (B11) Fauna (Een Sulfide son Water Rhizosphot tilled) the of Red ck Surface Explain in Depth (i Depth (i Depth (i	e Odor (Cer Table bheres or (C3) uced Iror (C7) Remark resent: inches): inches):	(C2) In Living In (C4) In (C4) In (C4)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6)  ly Vegetated Concave Surface (B8) e Patterns (B10) If Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)
Primary Indicators (n Surface Water (A High Water Table Saturation (A3) Water Marks (B1) Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations: Surface water present Water table present? Saturation present? (includes capillary fri	minimum  (1) (2) (A2) (3) (ts (B2) (3) (st (B4) (5) (e on Aeria eaves (B9 (e on Aeria	al Image  Ohe  Yes  Yes  Yes  Yes	ry (B7) eck here	if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (n Presenc Thin Mu Other (E	st (B11) Fauna (Een Sulfide son Water Rhizosphot tilled) the of Red ck Surface Explain in Depth (i Depth (i Depth (i	e Odor (Cer Table bheres or (C3) uced Iror (C7) Remark resent: inches): inches):	(C2) In Living In (C4) In (C4) In (C4)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) If Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)
Primary Indicators (n Surface Water (A High Water Table Saturation (A3) Water Marks (B1) Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le  Field Observations: Surface water present Water table present? Saturation present? (includes capillary fri	minimum (1) (2) (A2) (3) (3) (3) (4) (5) (6) (6) (6) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7	al Image  Ohe  Yes  Yes  Yes  Yes  Orded da	ry (B7)  eck here	if indic	Salt Cru Aquatic Hydroge Dry Sea Oxidizec Roots (n Presenc Thin Mu Other (E	st (B11) Fauna (Een Sulfide son Water Rhizosphot tilled) the of Red ck Surface Explain in Depth (i Depth (i Depth (i	e Odor (Cer Table bheres or (C3) uced Iror (C7) Remark resent: inches): inches):	(C2) In Living In (C4) In (C4) In (C4)	Surface Sparse Drainage Oxidized (tilled) (( Crayfish Saturatie Geomor FAC-Ne Frost-He	Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) If Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)

Project/Site Falkirk Ethanol Plant Lateral (Blue Flint Line) Cit	y/County:	McLean	Sampling Date:	8/6/2021
Applicant/Owner: WBI Energy Transmission, Inc.	State:	ND	Sampling Point:	Upland 14
Investigator(s): LT/AG	Section	on, Township	o, Range: S21, T14	15N, R98W
Landform (hillslope, terrace, etc.): depression	Local re	elief (concav	e, convex, none):	oncave
Slope (%): 5 Lat: 47.367948	Long:	-101.1304	90 Datum:	WGS 84
Soil Map Unit Name Williams-Bowbells loams, 0 to 3 per	cent slopes	NWI	Classification:	PEM1A
Subregion (MLRA or LRR): F Are climatic/	hydrologic cond	ditions of the	site typical for this time of th	e year? Y
Are vegetation , soil , or hydrology significant	tly disturbed?	Are "nor	mal circumstances" present?	N
	problematic?	(If neede	ed, explain any answers in re	marks.)
SUMMARY OF FINDINGS - Attach site map showin		point loca	tions, transect, importa	ant features, etc.
Hydrophytic vegetation present? N		-	within a wetland?	·
Hydric soil present?		•		
Indicators of wetland hydrology present?				
	roport \			
Remarks: (Explain alternative procedures here or in a separate Point taken in agricultural field. Natural vegetation present. Trar		n in an NWI	nolygon Area determined to	he unland based on
the general sloping topography of the area and the lack of hydri				be uplatid based off
VEGETATION - Use scientific names of plants.		In Product	Dominance Test Worksho	201
Absolute <u>Tree Stratum</u> (Plot size: 30 ft ) % Cove		Indicator Staus		
1	л Орсоюз	Otaus	Number of Dominant Specie that are OBL, FACW, or FAC	
2			Total Number of Dominar	``
3			Species Across all Strata	
4	_		Percent of Dominant Specie	s
5			that are OBL, FACW, or FAC	: <u>0.00%</u> (A/B)
0	_ = Total Cover	·		
Sapling/Shrub stratum (Plot size: 15 ft )			Prevalence Index Worksh	neet
1			Total % Cover of:	1 – 0
2			<u> </u>	1 = <u>0</u> 2 = 0
4			· —	3 = 0
5				1 = 0
	= Total Cover			5 = 0
Herb stratum (Plot size: 5 ft )	<del></del>		Column totals 0 (A	) 0 (B)
1	<u> </u>		Prevalence Index = $B/A$ =	
2				
3	_		Hydrophytic Vegetation I	
			Rapid test for hydrophy	•
5			Dominance test is >50 Prevalence index is ≤3	
6			<del></del>	
8			Morphogical adaptation supporting data in Ren	
9			separate sheet)	ianto or on a
10			Problematic hydrophyti	ic vegetation*
0	= Total Cover		(explain)	Ü
Woody vine stratum (Plot size: 30 ft )	<u> </u>		*Indicators of hydric soil and we	tland hydrology must be
1			present, unless disturbe	ed or problematic
2			Hydrophytic	
0 % Bare Ground in Herb Statum 100	= Total Cover	•	vegetation present? N	
	1		hieseiit!	
Remarks: (Include photo numbers here or on a separate sheet) Natural vegetation absent due to agricultural activities. Area ass hydrology indicators.		minated by ι	ıpland based on lack of hydri	c soils and wetland

Profile Description	: (Desci	ribe to t	he dept	h neede	d to doo	cument	the indi	cator c	or confirm the a	bsence of indicators.)
		Matrix				Mottles				
Depth (Inches)	Color (	(moist)	%	Color	(moist)	%	Type*	Loc**	Texture	Remarks
0-16	10YR	3/1	100	00101	(1110101)	70	Турс		Clay loam	remarko
16-28	10YR	3/2	100						Loam	
28-35	10YR	4/3	100						Clay	
20-00	10111	4/0	100						Olay	
Type: C = Concentra	tion D -	- Donloti	on DM	- Boduo	od Matri	v M2 -	Mackad	Sand	Crains **Lo	cation: PL = Pore Lining, M = Matri
Hydric Soil Indi		- Depleti	OH, KIVI	- Neuuc	eu Main	X, IVIO –	Maskeu			roblematic Hydric Soils:
Histisol (A1)	cators:			□ <b>R</b> an	dy Glove	od Matrix	(\$4)	Г		_
Histic Epipedon (	Δ2)				dy Redo	ed Matrix	(34)	Ĺ	cm Muck (A9)	dox (A16) (LRR K, L, R)
Black Histic (A3)	//2)				oped Mat				ark Surface (S	
Hydrogen Sulfide	(A4)					ky Minera	ıl (F1)	}		essions (F16) (LRR H, outside MLRA
Stratified Layers	` '	RF)				ed Matrix		_	72,73)	( ),(
1 cm Muck (A9) (				Dep	leted Ma	trix (F3)			_educed Vertic	
Depleted Below [		ace (A11	1)			Surface	` '		ed Parent Mate	` /
Thick Dark Surfa	` ,					rk Surfac	. ,	Ĺ		rk Surface (TF12)
Sandy Mucky Mir						essions (	,	Ĺ	ther (explain in	remarks)
2.5 cm Mucky Pe									ic vegetation and weltand hydrology must be	
b cm Mucky Pea	present, unless disturbed or problematic									
			eck her	e if indi	cators a	re not p	resent:	<b>✓</b>		
Restrictive Layer (i	f observ	red):								
Type:			Der	oth (inch	~~)·					m42 N
				, iii	=5 <i>)</i>			H	ydric soil prese	nt? N
Remarks:								H	yarıc son prese	nur <u>N</u>
Remarks: Hydric soil indicators	s absent.				zs). 			H	yarıc soli prese	III.? N
	s absent.			, (III)	=5). 			H	ydric soli prese	nt : N
Hydric soil indicators	s absent.			, (III)	=5). 			H	ydric soli prese	mt ? N
Hydric soil indicators HYDROLOGY				, (III)	es)			H	yarıc soli prese	III. IN
Hydric soil indicators HYDROLOGY Wetland Hydrology	Indicat	ors:						Н	yarıc soli prese	III.? N
Hydric soil indicators  HYDROLOGY  Wetland Hydrology  Primary Indicators (r	Indicate	ors:			k all that			H	Secondary Ind	icators (minimum of two required)
Hydric soil indicators  HYDROLOGY  Wetland Hydrology  Primary Indicators (r	Indicate	ors:			k all that Salt Cru	st (B11)		H	Secondary Ind	icators (minimum of two required) Soil Cracks (B6)
Hydric soil indicators  HYDROLOGY  Wetland Hydrology  Primary Indicators (r  Surface Water (A  High Water Table	Indicate	ors:			k all that Salt Cru Aquatic	st (B11) Fauna (E	•		Secondary Ind Surface Sparse	icators (minimum of two required) Soil Cracks (B6) ly Vegetated Concave Surface (B8)
Hydric soil indicators  HYDROLOGY  Wetland Hydrology  Primary Indicators (r  Surface Water (A  High Water Table  Saturation (A3)	Indicate	ors:			k all that Salt Cru Aquatic Hydroge	st (B11) Fauna (E en Sulfide	Odor (C	:1)	Secondary Ind Surface Sparse Drainag	icators (minimum of two required) Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10)
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Hydric soil indicators  HYDROLOGY  Wetland Hydrology  Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposi	Indicate minimum (1) e (A2) ) ts (B2)	ors:			k all that Salt Cru Aquatic Hydroge Dry Sea Oxidized	st (B11) Fauna (E en Sulfide son Wat d Rhizos <sub>l</sub>	e Odor (C er Table oheres or	:1) (C2)	Secondary Ind Surface Sparse Drainag Oxidized	icators (minimum of two required) Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3)
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Hydric soil indicators  HYDROLOGY  Wetland Hydrology  Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus	r Indicate minimum (1) e (A2) ) ts (B2) B) st (B4)	ors:			k all that Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presence	st (B11) Fauna (E en Sulfide son Wat d Rhizos not tilled) e of Red	e Odor (C er Table oheres or (C3) uced Iror	:1) (C2) n Living	Secondary Ind Surface Sparse Drainag Oxidized (tilled) ((	icators (minimum of two required) Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9)
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Hydric soil indicators  HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposits (B3 Algal Mat or Crus Iron Deposits (B3 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present?	Indicateminimum (1) (A2) (A2) (B2) (B3) (B4) (B4) (B4) (B5) (B5) (B6) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7	ors: I of one i	is require	ed; chec	k all that Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presenc Thin Mu Other (E	st (B11) Fauna (E en Sulfide son Wat I Rhizos not tilled) ee of Red ck Surfa explain in  Te not pi  Depth (	e Odor (Cer Table otheres or (C3) ucced Iror (C7) Remark:	:1) (C2) n Living n (C4) s)	Secondary Ind Surface Sparse Drainag Oxidized (tilled) (Cayfish Saturati Geomor FAC-Ne Frost-He	icators (minimum of two required) Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)
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Hydric soil indicators  HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Orift Deposits (B3 Algal Mat or Crus Iron Deposits (B3 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fr	r Indicateminimum (1) (a) (A2) (b) (b) (c) (c) (d) (d) (d) (d) (d) (d) (d) (d) (d) (d	al Image  Che  Yes  Yes  Yes	ry (B7)	ed; chec	k all that Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (Een Sulfide son Wat d Rhizos) not tilled) te of Red ck Surfa explain in  Te not pl  Depth ( Depth (	e Odor (C er Table bheres or (C3) uced Iror ce (C7) Remarks resent: inches): inches):	(C2) 1 Living 1 (C4) (S)	Secondary Ind Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati Geomor FAC-Ne Frost-He	icators (minimum of two required) Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) d Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)
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Hydric soil indicators  HYDROLOGY  Wetland Hydrology Primary Indicators (r Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Orift Deposits (B3 Algal Mat or Crus Iron Deposits (B3 Inundation Visible Water-Stained Le  Field Observations Surface water prese Water table present' Saturation present? (includes capillary fr	r Indicateminimum (1) (a) (A2) (b) (b) (c) (c) (d) (d) (d) (d) (d) (d) (d) (d) (d) (d	al Image  Che  Yes  Yes  Yes	ry (B7)	ed; chec	k all that Salt Cru Aquatic Hydroge Dry Sea Oxidized Roots (r Presend Thin Mu Other (E	st (B11) Fauna (Een Sulfide son Wat d Rhizos) not tilled) te of Red ck Surfa explain in  Te not pl  Depth ( Depth (	e Odor (C er Table bheres or (C3) uced Iror ce (C7) Remarks resent: inches): inches):	(C2) 1 Living 1 (C4) (S)	Secondary Ind Surface Sparse Drainag Oxidized (tilled) (( Crayfish Saturati Geomor FAC-Ne Frost-He	icators (minimum of two required) Soil Cracks (B6) ly Vegetated Concave Surface (B8) e Patterns (B10) I Rhizospheres on Living Roots C3) Burrows (C8) on Visible on Aerial Imagery (C9) phic Position (D2) utral Test (D5) eaved Hummocks (LRR F)

**Appendix F: OHWM Data Sheets** 



# Other Waters Information

Stream/Waterbody Name (if known): Waterbody ID #: Other Water #16

Associated Wetland #:

													Other \	Vate	r#:	16a,	b,c
Date: 05/06/2021		Proje	ct Na	ame a	& No.: E	Blue	Fli	nt E	thar	nol Plar	nt La	iteral	Refere	nce F	t: -		
Investigators: Luk											Quad N	Quad Name White Butte NE					
Additional Observ	servations (continue on back if needed):																
Stormwater ditc	hes as	soci	iated	l witl	h the ex	cisti	ng (	etha	nol	plant. N	/lost	ly un	vegetat	ed.			
Waterbody Type	Lake Pond Borrow Pit River							Stream		Othe	er X						
Subsurface Flow?	Yes				No	[	Х			Unknowr	1						
					PHY	/SIC	CAL	AT	TRIE	BUTES							
Flow Type	Perer	nnial	(Flows	s year	r round)	[				Intermi	ttent	(Flows	<3 month	s)			
	Seaso	onal (	Contir	nuous	flow ≥ 3 n	nontl	ns)			Ephem rainfall		(Flows	only in res	ponse	e to	X	
Stream Width @ OHWM (ft.)		0 - 1			1	- 3				3 - 6	X		6 - 9			9+	
Water Depth - Current (ft.)		0 - 1			1	- 3				3 - 6	Х		6 - 9			9+	
OHWM Indicator (check all applicable)	Natural Change Presence Vegetation	es in C	haract	er of S	Soil	Scou ultiple	ır [		estrud	Shelving Events	rrestria	al Vege Wrack	⊢	Dep	oositio & Ban	on _	]
Channel Height (ft.) (OHWM to channel bottom	Left:					0	- 2	Х				2 -	4			4+	
looking downstream)	Right:					0	- 2	Х				2-	4			4+	
Stream Substrate %	Silts	80%			Cobbles	;			Ве	drock		Sa	nds 20%			Gravel	
	Cond				Muck				Ve	getation			er - Explain:	-		,	
Aquatic Habitats	Gra Mud	nd Bar vel Ba d Bar lercut		s 🔲	Gravel I Deep Po Bank Ro Overhal	ools oot S	Syste		nrubs		In-stı	eam S	mergent P ubmerged		ts [	]	
Stream is:	Natu	ral		Art	ificial (Man-	-Made	e) [	×	Ma	anipulated							
	·		LA	KES	AND O	THE	ER I	DEE	PW	ATER H	ABI	TAT					
Shoreline Type: S Other (explain):	Silts	] c	obble	es [	Bed	rock		]	Cor	ncrete		Muc	ck	Veg	etatio	on	]

Additional Observations Continued :

# **Appendix G: Property Access Statement**



# **Property Access Statement**

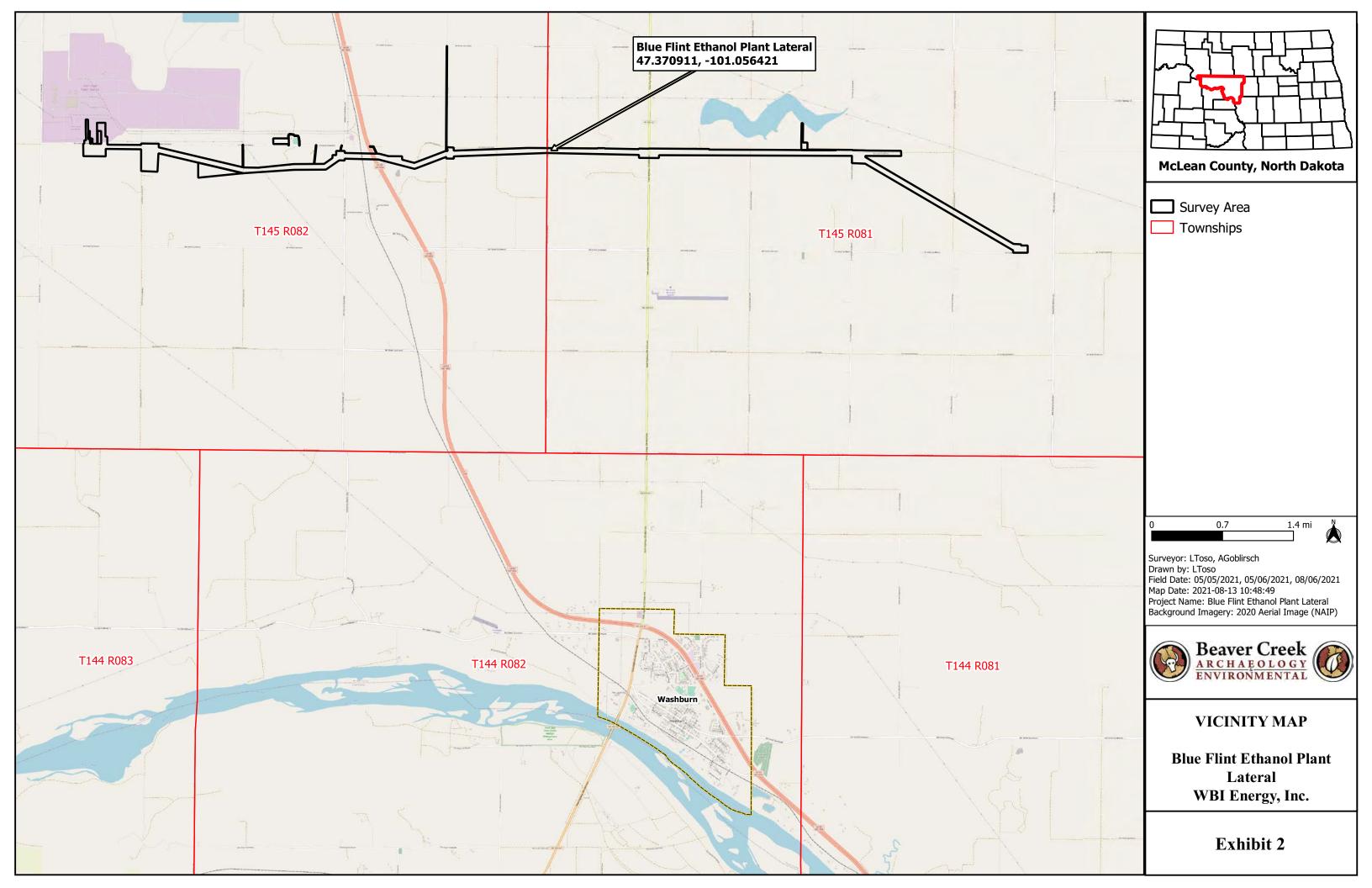
WBI Energy continually coordinates with landowners along the proposed route through pipeline project planning, construction and operation. Should U.S. Army Corps of Engineers personnel require access to specific properties to observe aquatic resources, WBI Energy will coordinate with landowner as necessary to provide for that access. Please contact Robbyn Reukauf to arrange access by email at <a href="Robbyn.Reukauf@WBIEnergy.com">Reukauf@WBIEnergy.com</a> or phone by calling (406) 359-7295.

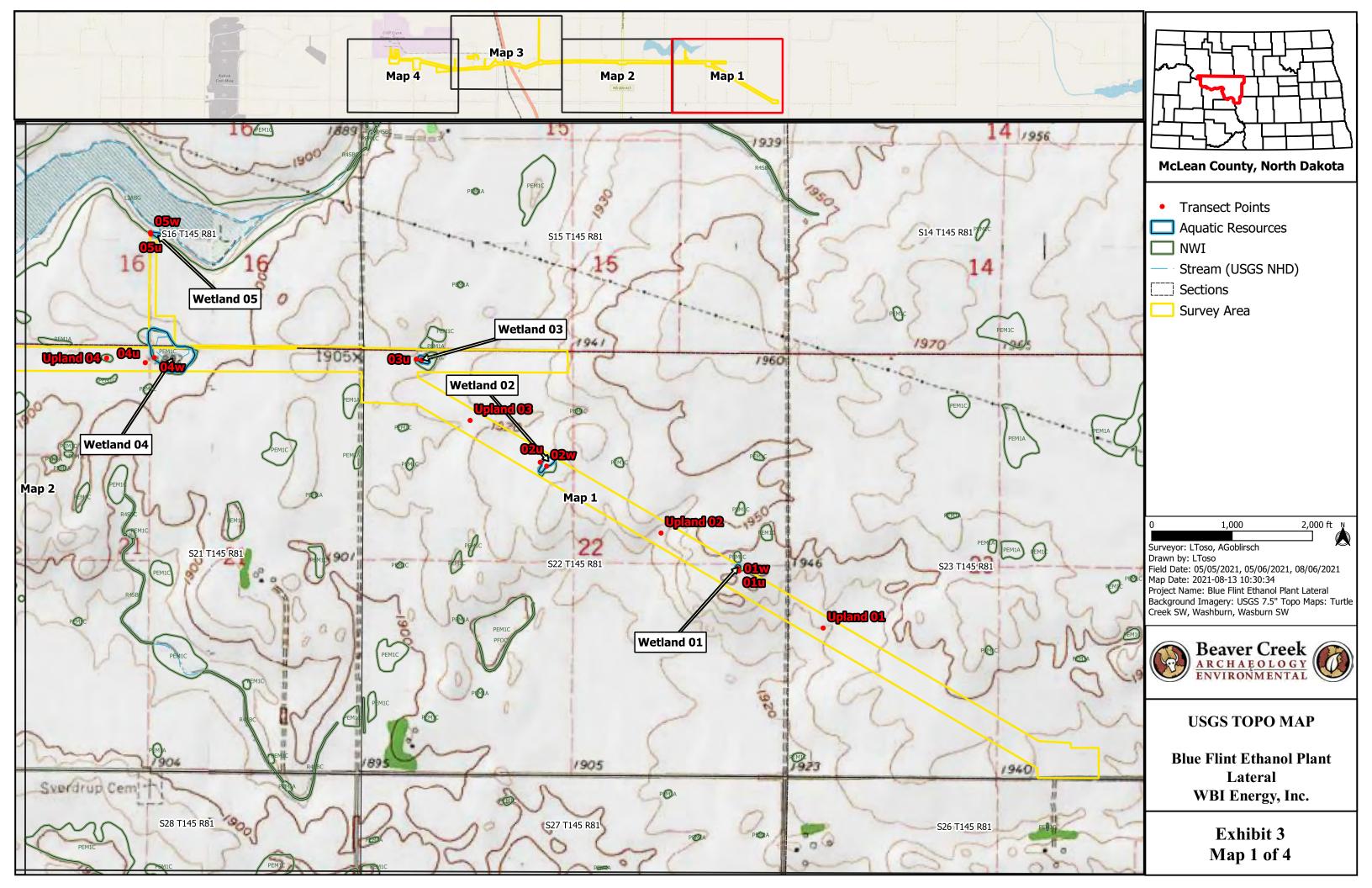


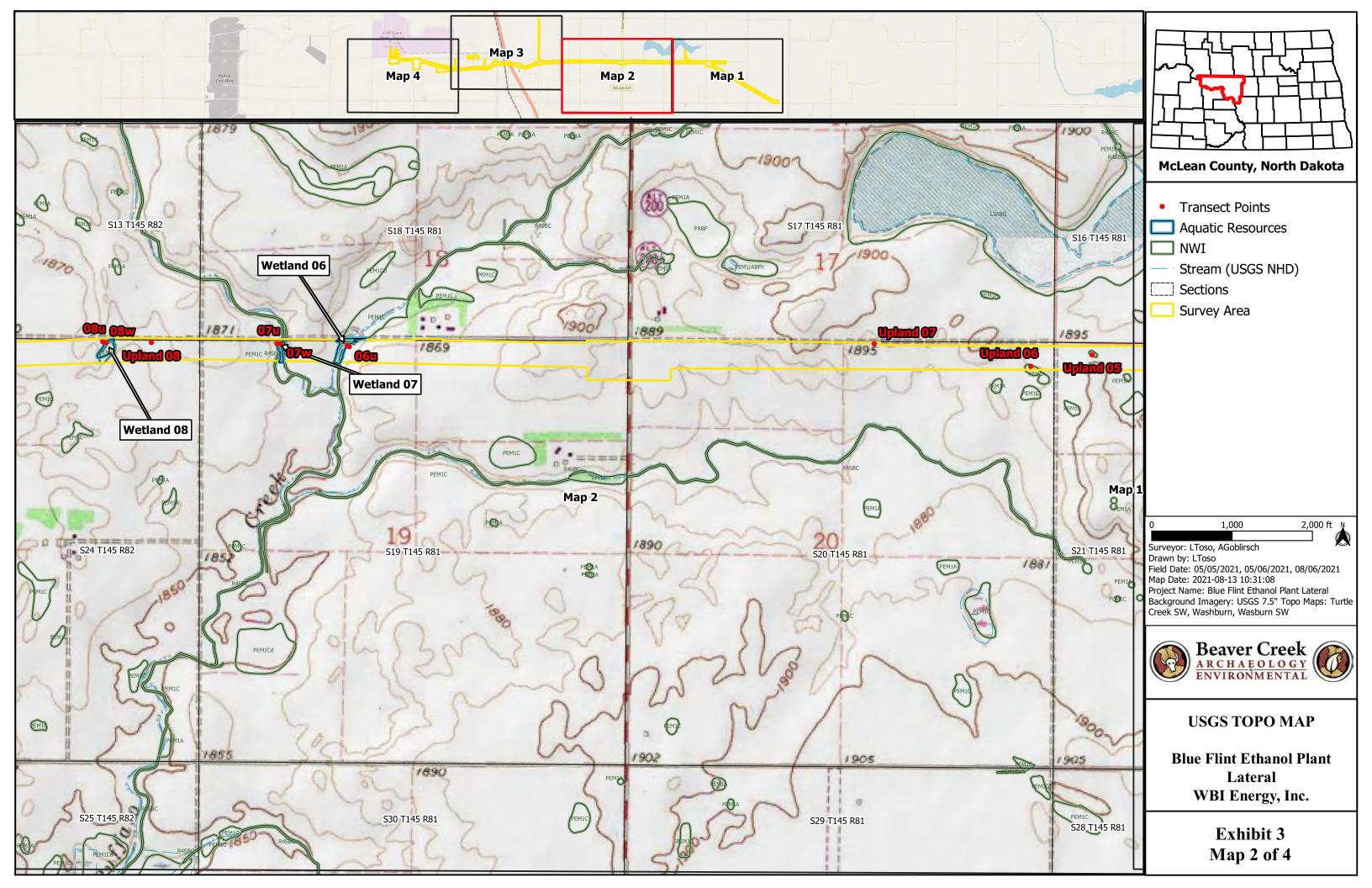
# **Appendix H: Aquatic Resource Excel Sheet**

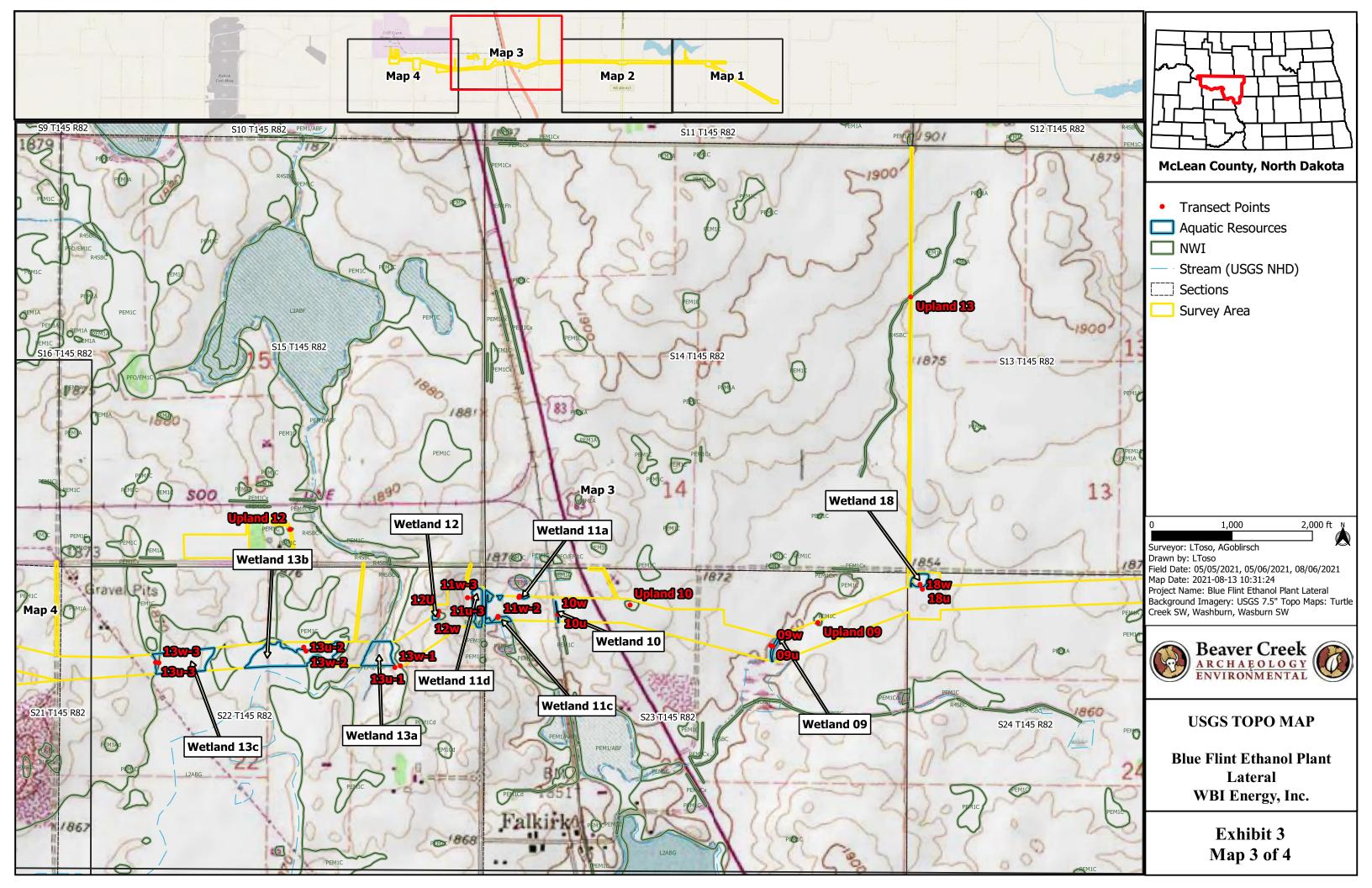


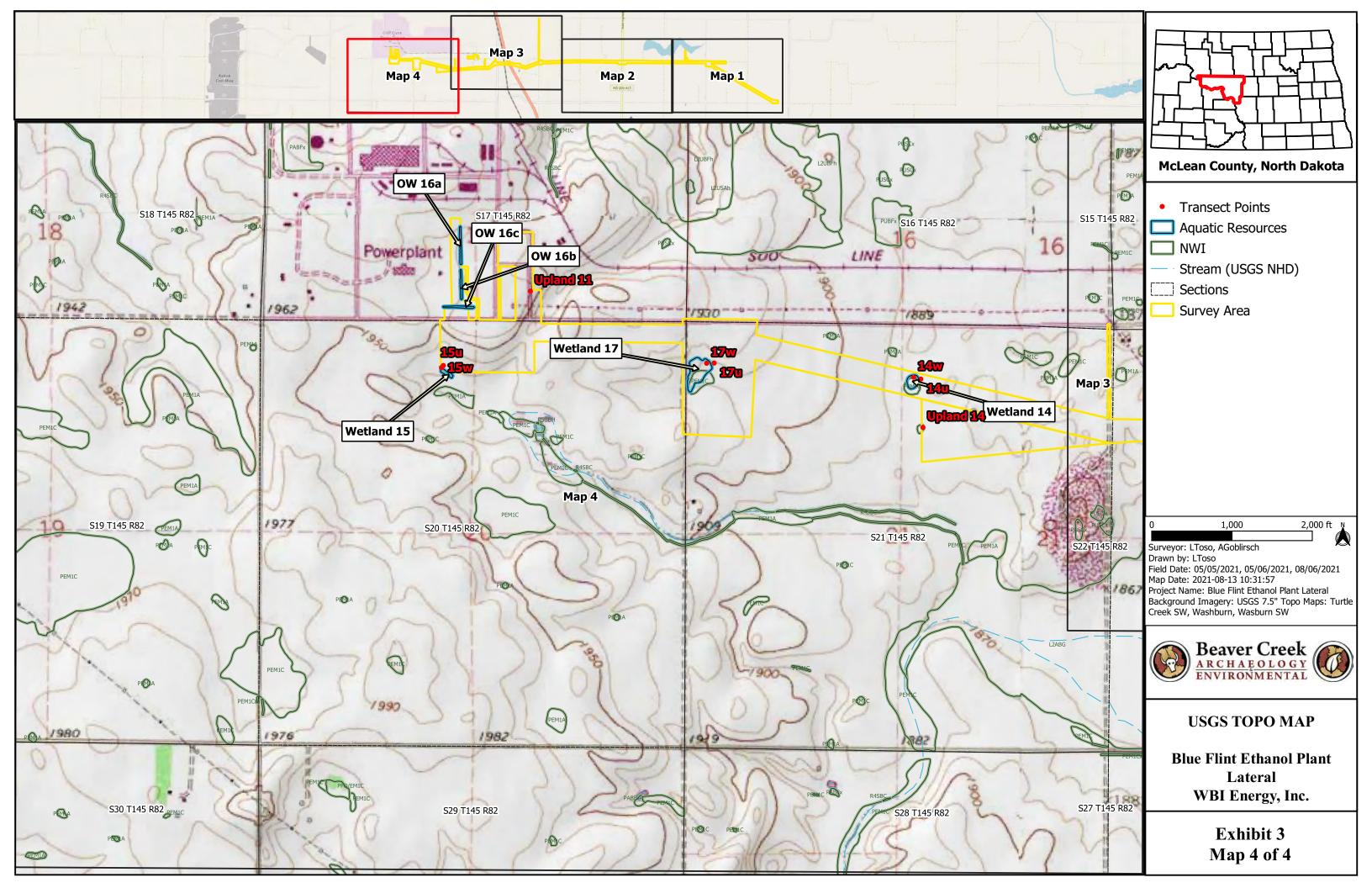
Waters_Name	State	Cowardin_Code HGM_Code	Meas_Type	Amount	Units	Waters_Type	Latitude	Longitude	Local_Waterway
Upland 01	North Dakota	U	Area	N/A	ACRE	UPLAND	47.361939	-100.969692	2
Upland 02	North Dakota	U	Area	N/A	ACRE	UPLAND	47.365142	-100.977862	2
Upland 03	North Dakota	U	Area	N/A	ACRE	UPLAND	47.368942	-100.987477	•
Upland 04	North Dakota	U	Area	N/A	ACRE	UPLAND	47.370986	-101.005743	3
Upland 05	North Dakota	U	Area	N/A	ACRE	UPLAND	47.371047	-101.012408	3
Upland 06	North Dakota	U	Area	N/A	ACRE	UPLAND	47.370637	-101.015489	)
Upland 07	North Dakota	U	Area	N/A	ACRE	UPLAND	47.371373	-101.023362	2
Upland 08	North Dakota	U	Area	N/A	ACRE	UPLAND	47.371243	-101.059661	
Upland 09	North Dakota	U	Area	N/A	ACRE	UPLAND	47.369637	-101.082923	3
Upland 10	North Dakota	U	Area	N/A	ACRE	UPLAND	47.370192	-101.092361	
Upland 11	North Dakota	U	Area	N/A	ACRE	UPLAND	47.372490	-101.150278	3
Upland 12	North Dakota	U	Area	N/A	ACRE	UPLAND	47.372680	-101.109461	
Upland 13	North Dakota	U	Area	N/A	ACRE	UPLAND	47.380775	-101.078381	
Upland 14	North Dakota	U	Area	N/A	ACRE	UPLAND	47.367948	-101.130490	)
Wetland 01	North Dakota	PEM1C	Area	0	.076 ACRE	ISOLATE	47.363984	-100.973978	3
Wetland 02	North Dakota	PEM1C	Area	0	.418 ACRE	ISOLATE	47.367480	-100.983631	
Wetland 03	North Dakota	PEM1C	Area	0	.254 ACRE	ISOLATE	47.370999	-100.989829	)
Wetland 04	North Dakota	PEM1C	Area	4	.404 ACRE	ISOLATE	47.371207	-101.002606	3
Wetland 05	North Dakota	L2ABG	Area	0	.144 ACRE	RPW	47.375207	-101.003295	i i
Wetland 06	North Dakota	PEM1C	Area	0	.784 ACRE	NRPW	47.371087	-101.050026	3
Wetland 07	North Dakota	PEM1C	Area	0	.309 ACRE	RPW	47.371005	-101.053139	Buffalo Creek
Wetland 08	North Dakota	PEM1A	Area	0	.616 ACRE	ISOLATE	47.371019	-101.061901	
Wetland 09	North Dakota	PEM1A	Area	0	.249 ACRE	NRPW	47.368862		
Wetland 10	North Dakota	PEM1A	Area	0	.064 ACRE	ISOLATE	47.369933	-101.096021	
Wetland 11a	North Dakota	PEM1A	Area		.079 ACRE	RPW	47.370437	-101.097714	ļ
Wetland 11b	North Dakota	PEM1A	Area	0	.053 ACRE	RPW	47.370421	-101.098897	•
Wetland 11c	North Dakota	PEM1A	Area	0	.609 ACRE	RPW	47.369915	-101.099153	3
Wetland 11d	North Dakota	PEM1A	Area	1	.110 ACRE	RPW	47.370161	-101.100001	
Wetland 12	North Dakota	PEM1C	Area	0	.113 ACRE	ISOLATE	47.369728	-101.102127	•
Wetland 13a	North Dakota	PEM1C	Area	2	.178 ACRE	RPW	47.368431	-101.104950	)
Wetland 13b	North Dakota	PEM1C	Area	4	.977 ACRE	RPW	47.368361	-101.109428	3
Wetland 13c	North Dakota	PEM1C	Area	4	.067 ACRE	RPW	47.368156	-101.114800	)
Wetland 14	North Dakota	PEM1C	Area	0	.435 ACRE	ISOLATE	47.369510	-101.131027	•
Wetland 15	North Dakota	PEM1A	Area	0	.189 ACRE	RPW	47.369676	-101.154466	3
Other Water 16a	North Dakota	R4SB	Area	0	.233 ACRE	NRPW	47.374001	-101.153805	5
Other Water 16b	North Dakota	R4SB	Area		.184 ACRE	NRPW	47.372665		
Other Water 16c	North Dakota	R4SB	Area		.204 ACRE	NRPW	47.371926		
Wetland 17	North Dakota	PEM1A	Area		.726 ACRE	ISOLATE	47.368039		
Wetland 18	North Dakota	PEM	Area	0	.650 ACRE	ISOLATE	47.37096900	-101.07780400	

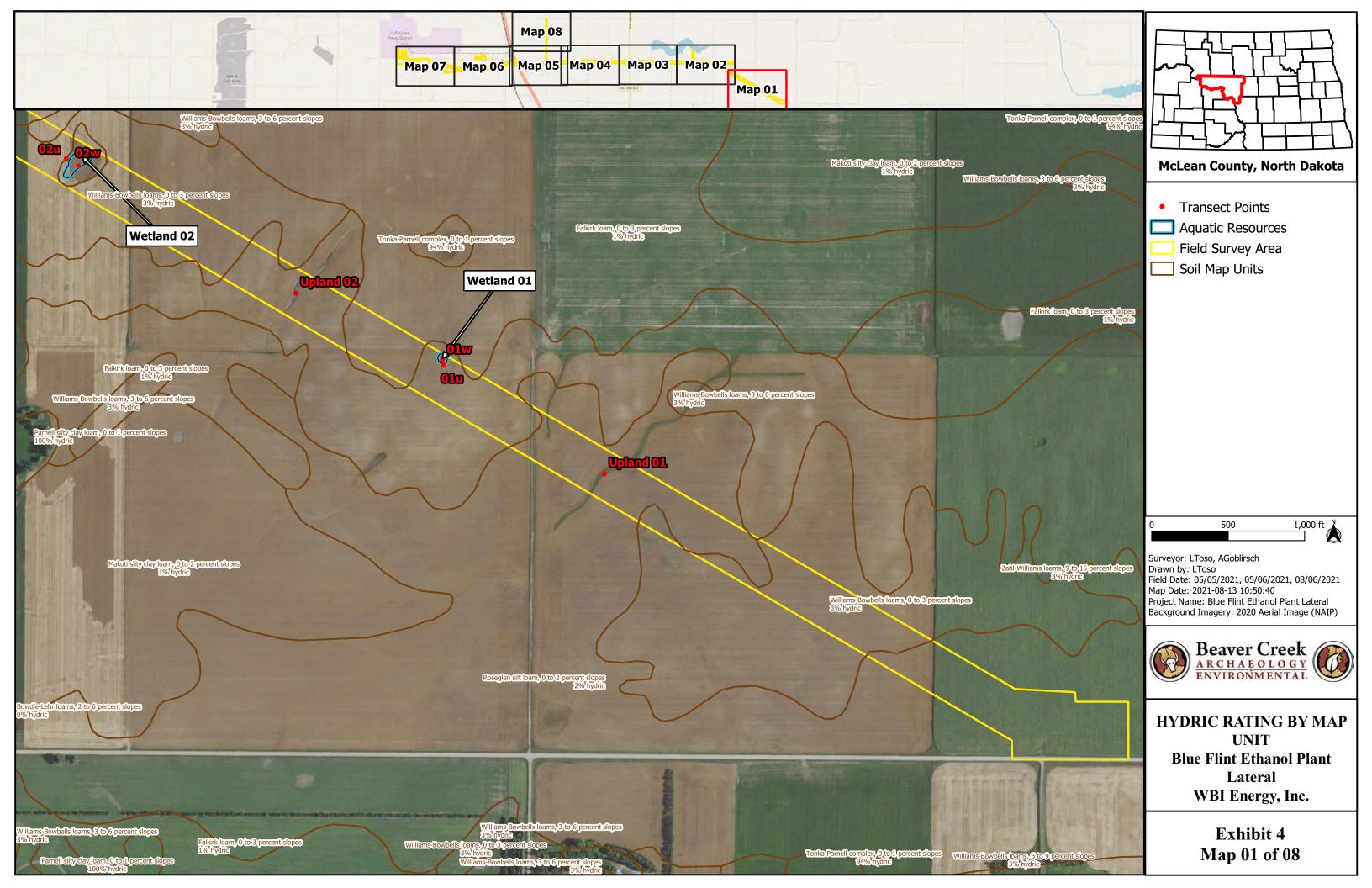


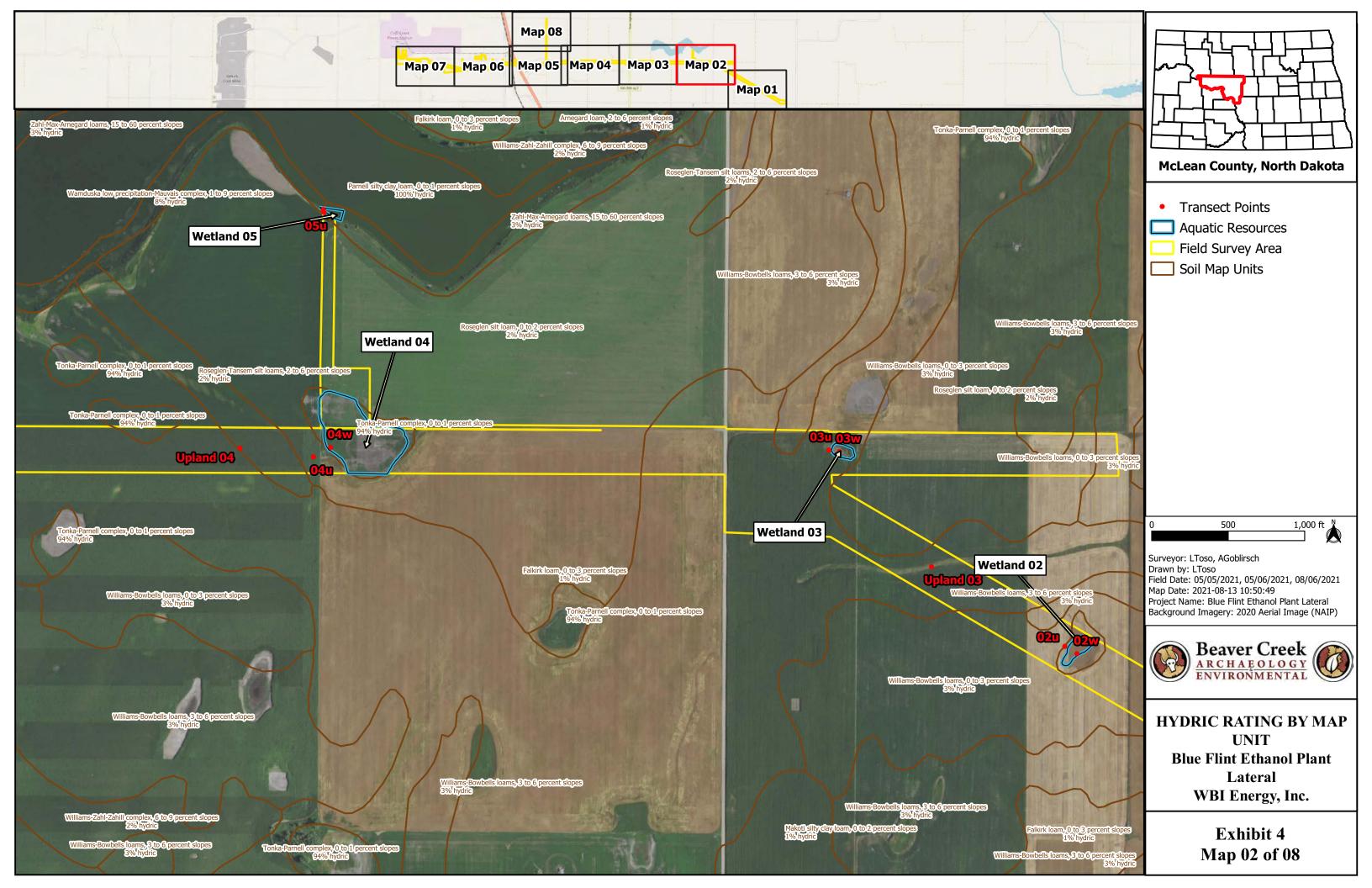


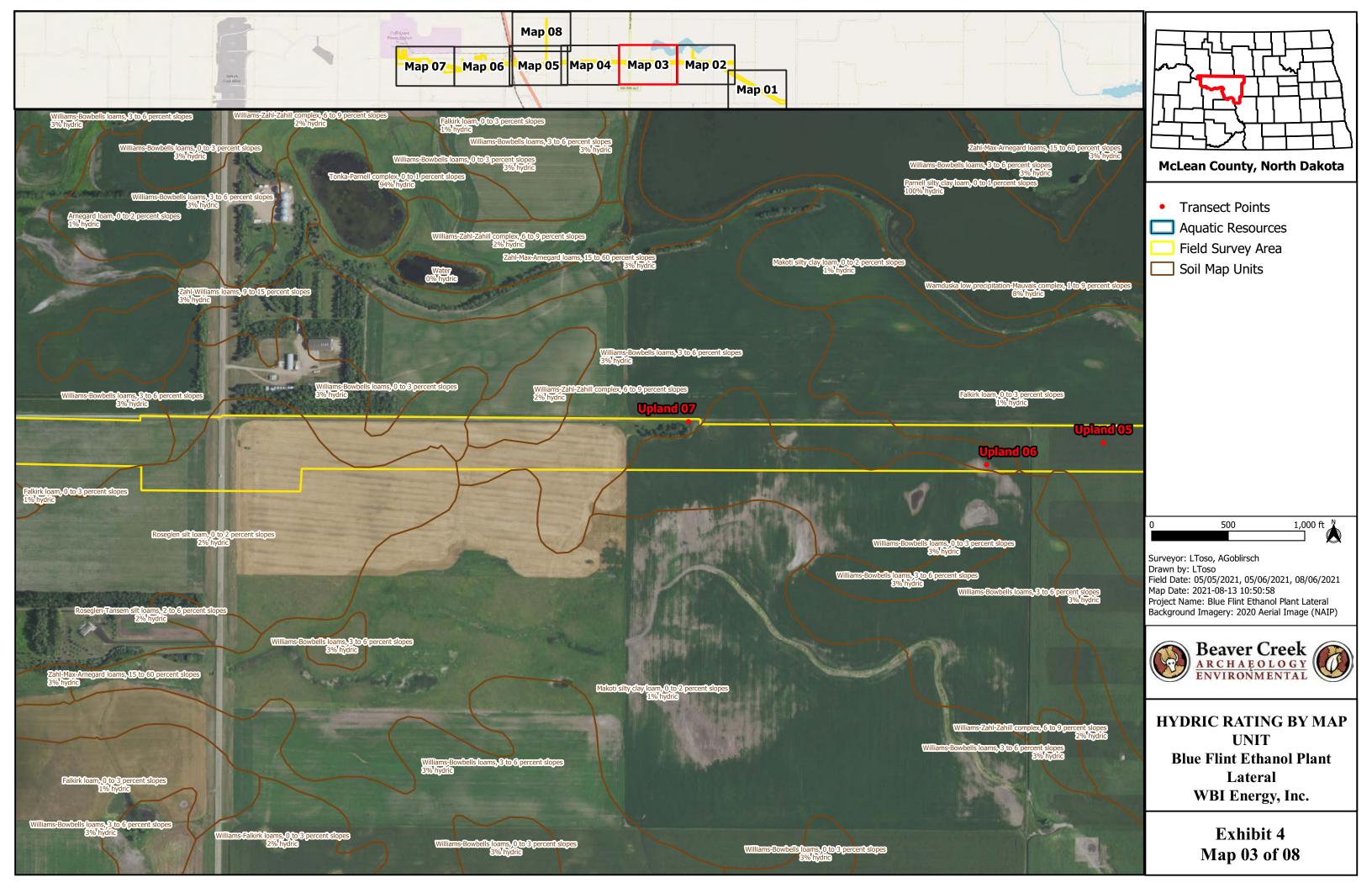


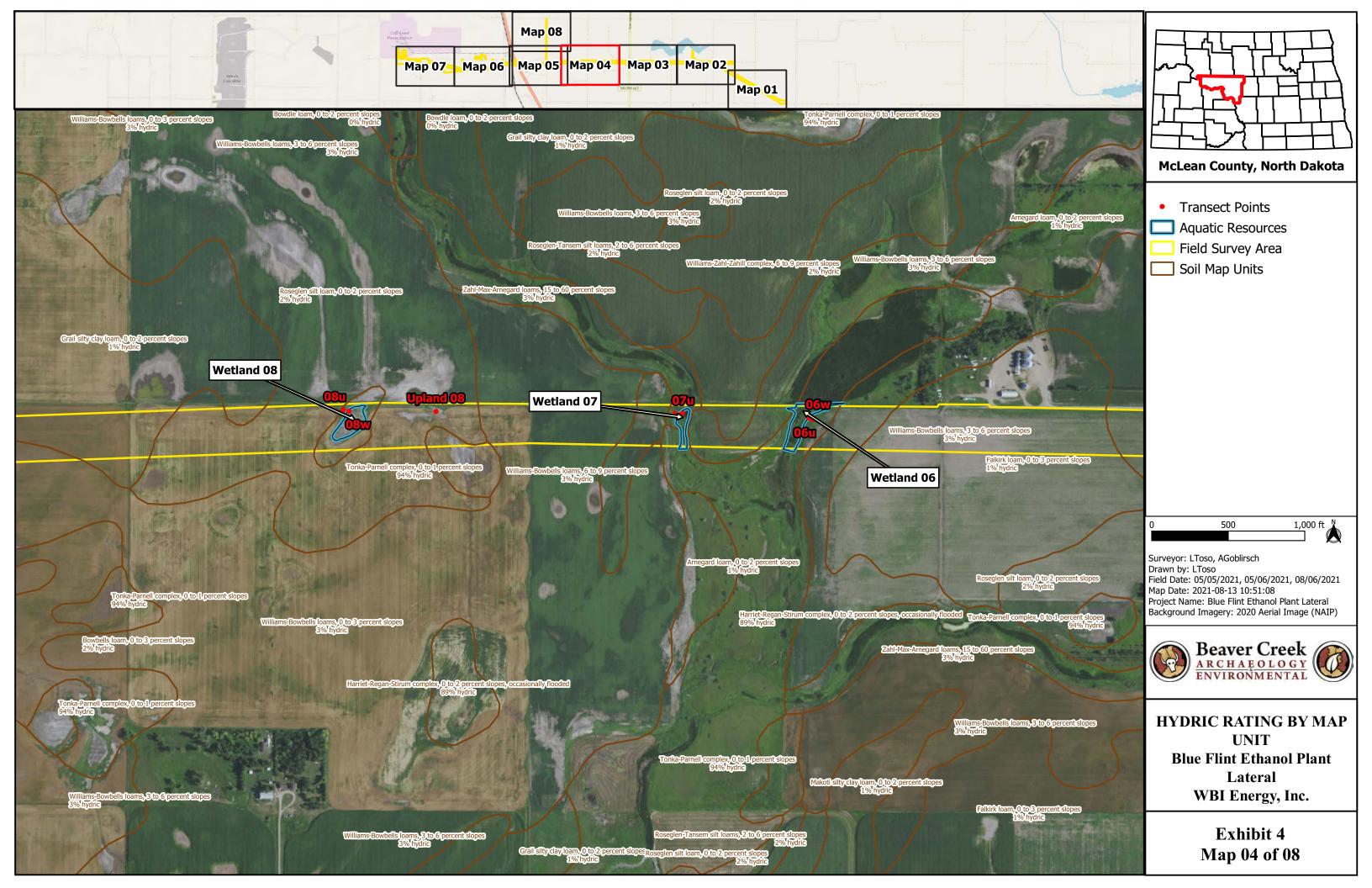


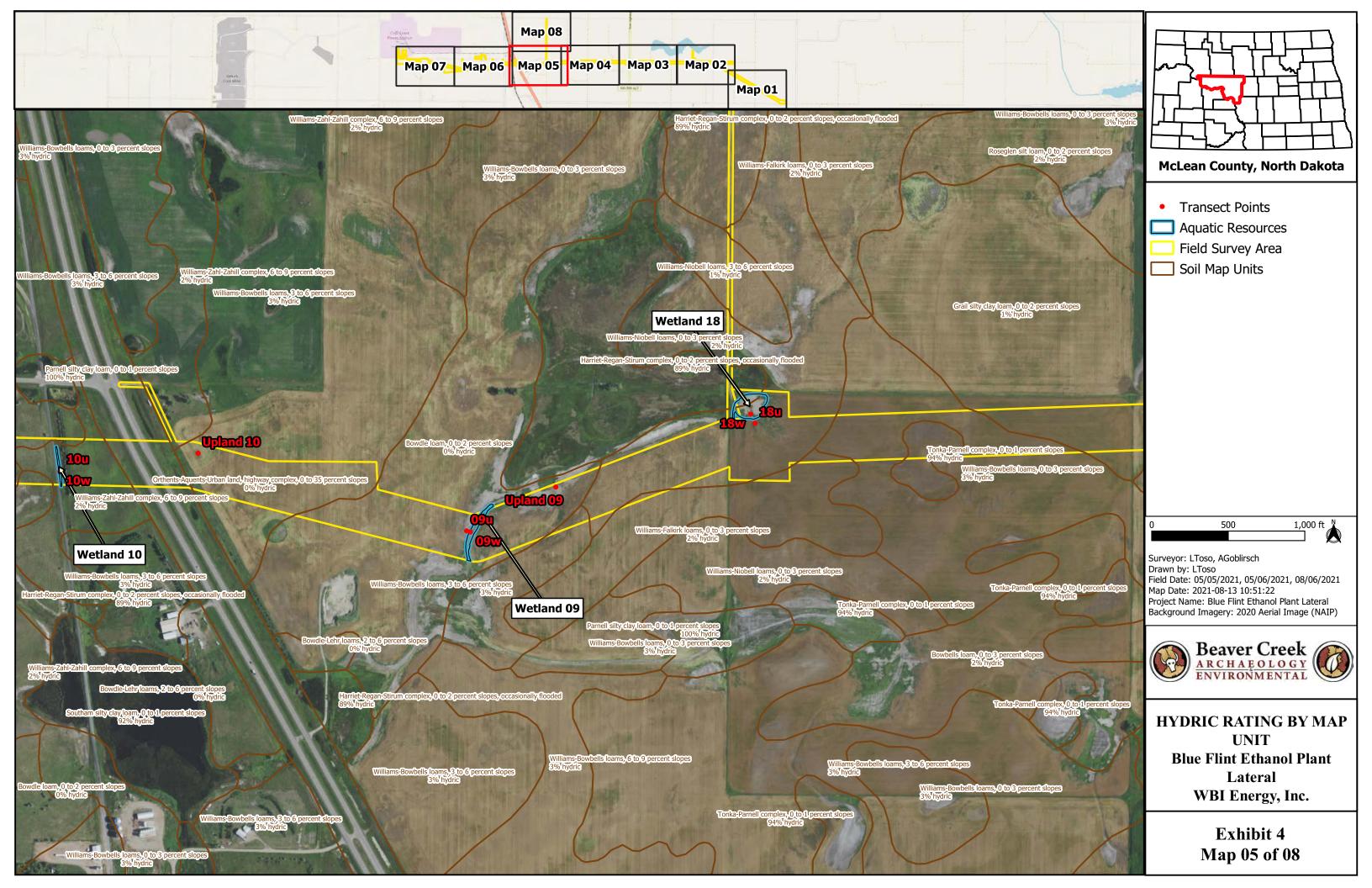


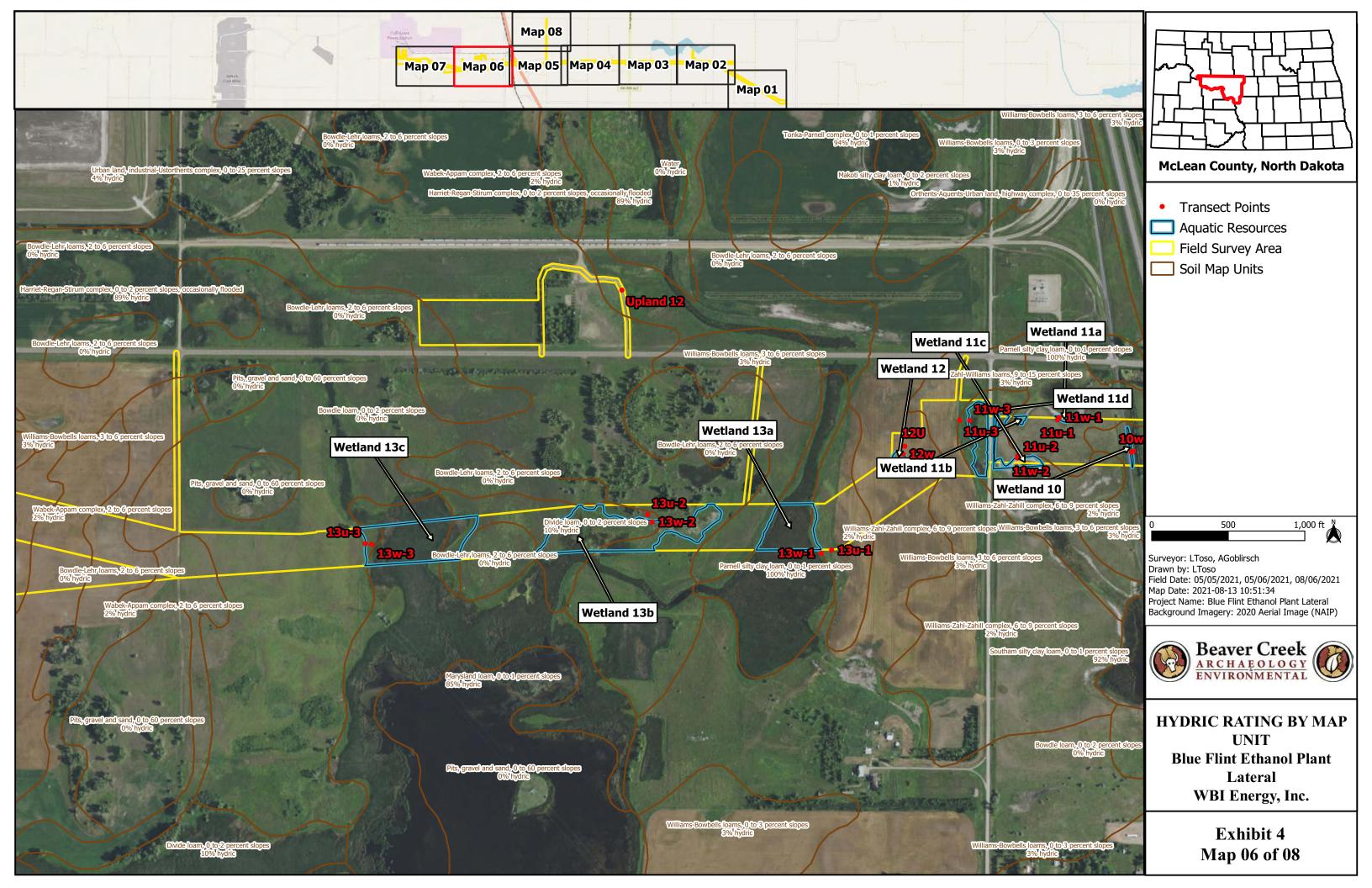


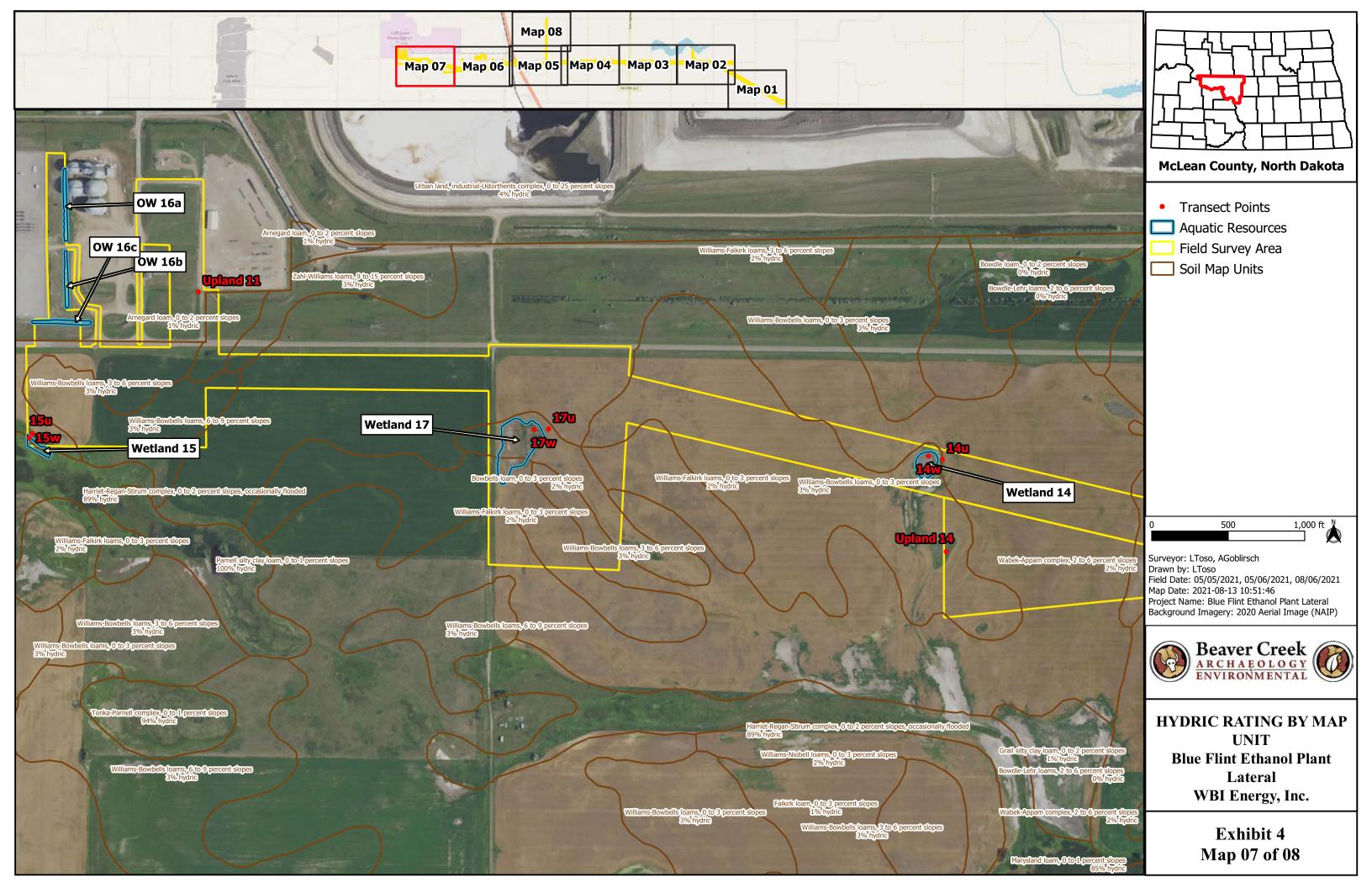


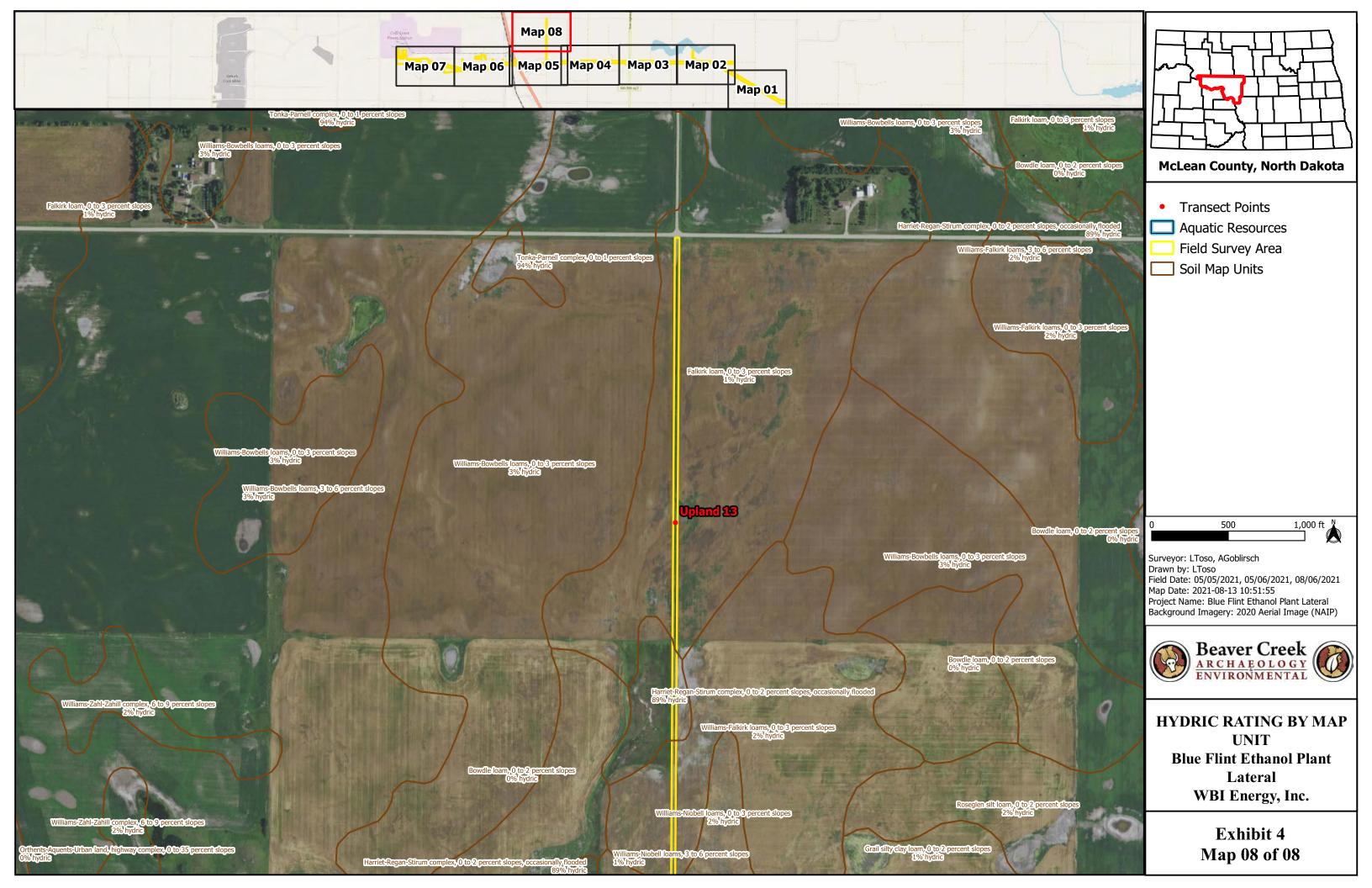












# Volume II

# Appendix P Blue Flint Ethanol Plant Lateral Biological Assessment Report

# BLUE FLINT ETHANOL PLANT LATERAL Biological Assessment



Prepared For: WBI Energy Transmission, Inc.



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# Introduction

WBI Energy Transmission, Inc. (WBI) is proposing to construct approximately 10 miles of 8-inch lateral pipeline from its existing Line Section 7 main line to Midwest AgEnergy's Blue Flint ethanol plant. The purpose of the project is to provide natural gas service to the ethanol plant so it can convert from coal to natural gas power generation. The Project is defined as the construction and operation of the proposed pipeline, and the Project area is defined as the area needed to construct the Project. The Project would be under the jurisdiction of the Federal Energy Regulatory Commission (FERC).

WBI contracted Beaver Creek, Inc. to complete natural resources surveys for the Project. These surveys and this report have been completed for the proposed Project to comply with Section 7 Threatened and Endangered Species Consultation under the Endangered Species Act (ESA), the Bald and Golden Eagle Protection Act, and the Migratory Bird Treaty Act.

# **Project Description**

The Project is in McLean County, North Dakota approximately 8 miles north of Washburn, North Dakota. The project is centered 47.371019, -101.052425 and the survey area is in the following sections:

- Portions of Section 16, 19, 20, 21, 22, 23 Township 145 North, Range 81 West.
- Portions of Section 15, 17, 20, 21, 22, 23, 24 Township 145 North, Range 82 West.

Construction of the Project is planned for early 2022. It would be built using the following steps, detailed below:

- Site preparation: survey and staking, clearing and grading
- Pipeline installation: pipe stringing, bending, welding, trenching, and lowering in, as well as use of specialized installation methods such as the guided bore method
- Backfilling and hydrostatic testing; and
- Right-of-way (ROW) cleanup and restoration

### Site Preparation

The limits of approved work areas (ROW and workspaces), the pipeline centerline, existing utility lines, and sensitive areas (e.g. wetland boundaries, cultural sites, and sensitive habitat) would be marked prior to construction for avoidance.

The construction ROW would be cleared and graded (where necessary) to provide a relatively level surface for construction equipment. Vegetation would be mowed and cleared to the edge of the work area in grassland areas where grading is not required. Vegetation would not be cleared within areas that would be crossed by guided bore methods. Construction equipment and materials would be staged within approved workspace areas or at designated pipe laydown yard locations. Access to project workspaces would take place on existing public and private access roads, and equipment would travel within approved workspace areas along the pipeline ROW.



### Pipeline Installation

After clearing and grading, individual joints of pipe would be transported to the Project area and strung along the ROW in a single, continuous line. Pipe bending would be done where necessary to conform to topography. The pipe would be welded to join the sections of the pipe into one continuous length. Pipe bends and welds would be done according to applicable standards and would be inspected for defects or damage and repaired before being placed in the trench. Specialized coating for underground pipelines and cathodic protection systems would be installed on the pipeline to prevent external corrosion.

Most of the Project would be constructed using the open trench method. Trenches would be excavated with a trackhoe or excavator to a depth of approximately five feet to allow for pipe installation and a four foot cover depth. The trench would measure approximately two-three feet wide. Topsoil and subsoil would be removed and stored in segregated spoil piles along the construction ROW. To reduce erosion, temporary erosion controls would be installed as needed and maintained throughout construction. A series of side-boom tractors would simultaneously lift welded sections of the pipe and carefully lower the sections into the trench.

Certain road crossings and wetland and waterbody features would be installed using the guided bore methodology. This trenchless pipeline installation method involves drilling a hole under the features to be crossed and then pulling a pre-welded pipe section back through the drilled path. Entry and exit holes would be excavated at either end of the bore path to control and guide the pipe installation and contain drilling fluids. Once the bore hole has been successfully drilled and is stable, the welded pipe (aka the drill string) is pulled through the hole.

# **Backfilling and Hydrostatic Testing**

After the pipeline is placed in the trench, soil would be backfilled with subsoil followed by topsoil. Trench plugs, a permanent erosion control feature, may be placed within the pipeline excavation on slopes greater than 5% to reduce erosion in the trench and prevent the trench from becoming a subsurface drainage path. Once backfilled, the entire length of the pipeline would be hydrostatically tested according to federal requirements before being placed into service. WBI Energy is proposing to utilize water from nearby surface waters to complete hydrostatic testing; however, municipal water sources may be utilized as an alternative option. Hydrostatic test water would be discharged in approved areas according to applicable permits.

### Reclamation

Restoration of the ROW would occur following pipeline installation. Permanent surface erosion control measures, including, but not limited to, permanent slope breakers, erosion control matting, and riprap would be installed as necessary within the ROW. Pipeline markers and security fencing would be installed as required. The Project area would be seeded with a Natural Resource Conservation Service (NRCS) or landowner-recommended seed mix and approved by the landowner prior to seeding.

The Project area would be monitored routinely for erosion, subsidence, noxious weeds, and vegetation establishment until successful restoration has been achieved. Reclamation is typically



considered successful when seeded areas are established; adjacent vegetative communities spread back into the disturbed areas; and noxious weeds are under control.

# **Methods**

# **Definitions**

Environmental surveys were conducted at two different spatial levels: the action area, and environmental survey area. The action area is a one-mile radius from the proposed Project and associated workspaces. This was used to survey for eagle nests (**Figure 2**). Existing access roads and trails used for Project access were not included in the action area buffer for eagle nests. The environmental survey area included a 300-foot-wide corridor centered on the proposed pipeline centerline; a 30-foot-wide corridor centered on proposed access road centerlines; and workspace limits for laydown yards and bore pullback areas. The Project area is defined as the area needed to construct the project, which would include a 75ft wide construction corridor, with additional temporary workspaces. The Project area is entirely within the environmental survey area.

### Desktop Review

Prior to field surveys, the action area was evaluated via desktop methods. Statewide aerial photography and US Geological Survey (USGS) Topographic Maps were reviewed to determine current and historic land use. These data provided background information for the field survey.

# Field Survey Methods

Field surveys were conducted by Luke Toso, Botanist/Wildlife Biologist, on May 5 and May 6, 2021 and August 6, 2021. The action area was surveyed within line-of-sight of the Project visually and with the aid of binoculars on foot and from a vehicle systematically traversing across the area while scoping surrounding areas of potential wildlife habitat.

Detailed botanical surveys were conducted within the environmental survey area. The survey was done by a combination of systematic transects and random meanders throughout each plant community. Plant communities were documented by recording the species encountered and estimating the dominance of plant species. Representative digital photographs were taken of the Project area and surroundings to illustrate habitat, topography, and existing development.

# **Existing Conditions**

### Action Area Description

At the landscape scale, the survey area is within the Missouri Plateau ecoregion of North Dakota (Bryce et al. 1996). This landscape contains gently rolling to flat topography with prairie pothole wetland depressions with few integrated stream systems. Most of the action area is used as agricultural crop land, with some vegetated wetland habitat present in the western portion of the action area.



# Habitat and Plant Community Description

Most of the project area was dominated by agricultural crop land (**Photo 1**). Some introduced grassland was present along field margins, road ditches, and drainage ditches. These areas were dominated by smooth brome (*Bromus inermis*), Kentucky bluegrass (*Poa pratensis*), and quackgrass (*Elymus repens*). Crop fields did occasionally contain wetland depressions, but these areas were unvegetated or cropped.

Native habitats were primarily present in Section 22 and 23 T145N, R82W (**Photo 2**). This area contained a combination of upland habitats dominated by quackgrass and western wheatgrass (*Pascopyrum smithii*). Occasional green ash (*Fraxinus pennsylvanica*), cottonwoods (*Populus deltoides*), and Russian olive (*Elaeagnus angustifolia*) were present throughout the area. Emergent wetlands were dominated by cattails (*Typha* sp.) and prairie cordgrass (*Spartina pectinata*).



**Photo 1.** View west in Section 21, T145N, R82W showing the typical landscape within the environmental survey area and broader action area.





**Photo 2.** View northwest in Section 22, T145N, R82W of the native habitat present in the Project area. This area contained emergent wetland vegetation, with uplands dominated by a mixture of native and introduced grasses.

# **Biological Assessment**

The Biological Assessment (BA) analyzes the potential effects of the proposed Project on federally listed threatened, endangered, and proposed species and critical habitats to determine whether species or habitat are likely to be adversely affected.

A list of federally threatened, endangered, candidate and proposed resources was obtained for McLean County from the USFWS Information for Planning and Conservation (IPaC) application (USFWS 2021) (**Table 2**). Six (6) species have the potential to occur in the McClean County (i.e., habitat is present or in close proximity). Of these six species, three may occur in the action area.

Table 1. Federally Listed, Proposed, and Candidate Resources with the Action Area

Species/Critical Habitat	Status	Potential to occur in the Action Area	Habitat Description and Range in North Dakota
Pallid Sturgeon (Scaphirhynchus albus)	Е	No	Turbid main stem shallow river channels of the Yellowstone and Missouri.
Whooping Crane (Grus americana)	E	Yes	Migrates through ND, using wetlands and agricultural land as stopover habitat.



Species/Critical Habitat	Status	Potential to occur in the Action Area	Habitat Description and Range in North Dakota
Dakota Skipper (Hesperia dacotae)	Т, СН	Yes	Native prairie habitat with high forb diversity and abundance. In McKenzie County, typically found in little bluestem dominated communities.
Northern Long-Eared Bat ( <i>Myotis</i> septentrionalis)	Т	Yes	Forested habitats, emergent wetlands, agricultural fields, old fields, pastures.
Piping Plover (Charadrius melodus)	T, CH	No	Sparsely vegetated sandbars, sand and gravel beaches on islands in the Yellowstone and Missouri Rivers.
Rufa Red Knot (Calidris canutus rufa)	Т	No	Migratory transient through ND using similar habitat as the piping plover for stopover habitat.

<sup>&</sup>lt;sup>1</sup> Status Codes: E=federally listed endangered; T=federally listed threatened; and CH=designated critical habitat

### Pallid Sturgeon (Scaphirhynchus albus)

*Current Status:* Pallid sturgeons prefer turbid, main-stem shallow river channels with sand and gravel bars (55 FR 36641 36647). In North Dakota, pallid sturgeons are currently known primarily from the Missouri-Yellowstone confluence, though they can occur anywhere in the Missouri River and lower Yellowstone Rivers between the Garrison Dam and Fort Peck Dam. Pallid sturgeons likely use portions of Lake Sakakawea where or when its characteristics approach riverine habitat.

**Potential Habitat Surrounding and within the Project Area**: The Project area is about 5 miles from the Missouri River, the nearest known habitat for this species.

**Direct and Indirect Effects:** Direct and indirect effects are not anticipated for this species since potential habitat is not present.

*Cumulative Effects:* No direct or indirect effects to the pallid sturgeon are expected from the proposed action. Therefore, the construction and operation of the Project are not expected to contribute to cumulative effects to this species.

**Determination**: The Project would have **no effect** to the pallid sturgeon.

# Whooping Crane (Grus americana)

Current Status: The whooping crane breeds in wetland habitat associated with Wood Buffalo National Park in Alberta and the Northwest Territories of northern Canada, and overwinters on the Texas coast (43 FR 36588 36590). The migration corridor for the Aransas-Wood Buffalo Population (AWBP) or whooping cranes follows an approximate straight path, with the cranes traveling through Alberta, Saskatchewan, extreme eastern Montana, North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, and Texas. The migration route approximately follows the Missouri River corridor through the Midwestern United States. During migration, whooping



cranes use stopover habitat opportunistically. In general, they avoid rocky substrates and heavily vegetated sites (Armbruster 1990). They typically use shallow marshes with minimal to no emergent zone for roosting, and nearby (within one kilometer) upland cropland and pastures for foraging (Howe 1989). When they use riverine habitats, they roost on submerged sandbars in wide, unobstructed channels that are isolated from human disturbance (Armbruster 1990).

**Potential Habitat Surrounding and within the Project Area:** The action area is within the migration corridor where 95 percent of confirmed whooping crane sightings have been made (USFWS 2012). Since the Project is within the whooping crane migratory corridor, whooping cranes may occur in the vicinity of the Project during the April 1 – May 15 and/or September 10 – October 31 migration periods. Wetland and agricultural crop land is present within the action area and environmental survey area that could be suitable stopover habitat for this species.

Direct and Indirect Impacts: It is unlikely that stopover habitat within the Project area would be used by the whooping crane. The nearby town of Garrison and existing human developments in the area likely already deter use by this species. No new overhead transmission lines would be needed for the Project, which are the greatest known source of mortality for fledglings. Cranes flying overhead would be too high to collide with vehicles. If a whooping crane is observed, construction would be stopped, the USFWS would be notified, and construction would not proceed until after whooping cranes have left the area and permission to proceed has been granted by the USFWS. Therefore, no direct or indirect effects are expected from construction, operation, or maintenance of the Proposed Action.

*Cumulative Effects:* No direct or indirect effects to the whooping crane are expected from the proposed action. Therefore, the construction and operation of the Project are not expected to contribute to cumulative effects to this species.

**Determination**: The Project would have **no effect** to the whooping crane.

### <u>Dakota Skipper Hesperia dacotae</u>

Current Status: The Dakota skipper is a small butterfly found in the tallgrass and mixed grass prairies of the Northern Great Plains. Dakota skippers have a single flight per year occurring from the middle of June through the end of July (Dana 1991). Current data suggests that dispersal of Dakota skipper is very limited (79 FR 63672), and individuals may be incapable of moving greater than one kilometer (0.6 miles) between patches of prairie habitat separated by structurally similar habitats (Cochrane and Delphey 2002). Dakota skipper habitat has been categorized into two main types, both of which can meet the composition needed to support the entire life cycle of the species. "Type A" habitat is low, wet-mesic prairie on near-shore glacial lake deposits, dominated by bluestem grasses (79 FR 63672). "Type B" habitat occurs on rolling terrain over gravelly glacial moraine deposits and is dominated by bluestems and needle grasses (Hesperostipa sp.). Dakota skippers have been documented in McKenzie and Dunn counties in high rolling prairie "Type B" habitat (79 FR 63672).

**Potential Habitat Surrounding and within the Project Area**: Native prairie habitat is not present within the Project area that would be suitable habitat for this species. Within the action area, the



nearest potential native prairie habitat is in the northwest corner of Section 28, T145N, R82W. This area is separated from the Project area by 0.7 miles of agricultural crop land and introduced grassland dominated by smooth brome. Since Dakota skippers have limited dispersal (1km or 0.6 miles), and since suitable habitat is not present in the Project, Dakota skippers would be unlikely to disperse into the Project area from the broader action area.

**Direct and Indirect Effects**: Direct effects are not anticipated for this species since potential habitat is not present in the Project area. The nearest potential native prairie habitat in the action area is 0.7 miles south of the Project area. At this distance, indirect effects are not anticipated.

*Cumulative Effects:* No direct or indirect effects to the Dakota skipper are expected from the proposed action. Therefore, cumulative effects to this species as a result of the Project are not anticipated.

**Determination**: The Project would have **no effect** to the Dakota skipper.

### Northern Long-eared Bat Myotis septentrionalis

Current Status: The northern long-eared bat is an insectivorous bat that uses different roost sites in different seasons. In winter, northern long-eared bats hibernate in caves or mines with high humidity and stable temperatures (80 FR 17974). Suitable summer habitat consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields, and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags at least 3 in [7.6 cm] dbh that have exfoliating bark, cracks, crevices, and/or cavities), as well as linear features such as fencerows, riparian forests, and other wooded corridors. Isolated trees are considered suitable habitat when they exhibit the characteristics of a suitable roost tree and are less than 1,000 ft (305 m) from the next nearest suitable roost tree, woodlot, or wooded fencerow (80 FR 17974). The northern long-eared bat has been considered for listing primarily because of white nose syndrome (WNS), an infectious fungus that is responsible for severe population declines.

**Potential Habitat Surrounding and within the Project Area**: Although the northern long-eared bat is listed as occurring in McLean County and its presence has been confirmed in the badlands and Missouri River valley (Nelson et al. 2015), specific occurrence information within or surrounding the Project area is not available. Cottonwood trees are present in the Project area that could be suitable roosting habitat for this species.

Direct and Indirect Effects: Direct effects could occur if roosting trees used by northern long-eared bats were removed by construction activities during summer use (April through September). While trees are present in the Project area, they would not be impacted by construction. Therefore, no direct effects to this species would occur as a result of the Project. It is also unlikely that temporary increased noise and human activity during construction of the Project would be discernible to northern long-eared bats using adjacent habitat, compared to the existing traffic and noise regime, such that the Project itself would cause displacement. Construction noise and human presence is not an identified cause for this species' decline (80 FR)



17974). Therefore, no direct and or indirect effects would occur as a result of construction of the Project.

*Cumulative Effects*: No direct or indirect adverse effects are expected as a result of the Project; therefore, the Project would not contribute to cumulative effects to northern long-eared bats.

**Determination**: The Project would have **no effect** to the northern long-eared bat.

### **Piping Plover Charadrius melodus**

Current Status: Suitable nesting habitat for piping plovers in the Missouri and Yellowstone River systems is characterized as sparsely vegetated channel sandbars, sand and gravel beaches on islands, temporary pools on sandbars and islands, and island margins that interface with the river channel. Piping plovers forage on open beaches, primarily consuming insects and crustaceans. Breeding piping plovers rarely travel more than one mile from their nest sites during the breeding season (67 FR 57638).

**Potential Habitat Surrounding and within the Project Area**: No potential nesting or foraging habitat is present in the Project area. The nearest potential habitat is the Missouri River approximately 5 miles to the south.

*Direct and Indirect Effects*: Direct and indirect effects are not anticipated for this species since potential habitat is not present.

*Cumulative Effects:* No direct or indirect effects to the piping plover are expected from the proposed action. Therefore, the construction and operation of the Project are not expected to contribute to cumulative effects to this species.

**Determination**: The Project would have **no effect** to the piping plover.

### Rufa Red Knot (Calidris canutus rufa)

Current Status: The rufa red knot makes one of the longest annual migrations of any bird, traveling up to 18,000 miles between Arctic breeding grounds in northern latitudes to nonbreeding areas in South America (79 FR 73706). Migratory pathways typically follow coastlines, but rufa red knots have been documented to use the Mid-Continental Flyway, using various sites in the Northern Great Plains (including North Dakota) as stopover habitat, primarily from May through August. However, the red knot has also been documented to avoid the Northern Great Plains during some migrations. The red knot is considered to be a rare transient through North Dakota during the spring and fall migrations, with few confirmed reports in the state (Newstead et al. 2013). Information is lacking on specific non-coastal stopover habitat for the rufa red knot, but would include wetland habitats similar to those selected by other shorebirds such as the least tern and piping plover. Red knots have been documented to use Lake Sakakawea as stopover habitat (Newstead et al. 2013). It is known that stopovers are time-constrained, and that the rufa red knot requires stopovers rich in easily digestible food, which may explain their use of sewage treatment ponds.



**Potential Habitat Surrounding and within the Project Area**: No potential nesting or foraging habitat is present in the Project area. The nearest potential habitat is the Missouri River approximately 5 miles to the south.

*Direct and Indirect Effects*: Direct and indirect effects are not anticipated for this species since potential habitat is not present.

*Cumulative Effects:* No direct or indirect effects to the rufa red knot are expected from the proposed action. Therefore, the construction and operation of the Project are not expected to contribute to cumulative effects to this species.

**Determination:** The Project would have **no effect** to the rufa red knot.

# **Piping Plover Designated Critical Habitat**

Current Status: The USFWS designated 19 areas as critical habitat for the piping plover, including alkali wetlands, inland lakes, and reservoirs totaling approximately 183,422 acres and portions of four rivers totaling approximately 1,207.5 river miles in the states of Minnesota, Montana, Nebraska, North Dakota and South Dakota. The nearest piping plover designated critical habitat is Lake Sakakawea (USFWS 2002, 67 FR 57638). The primary constituent elements considered essential to the conservation of the species require special consideration against destruction. On Lake Sakakawea, these constituent elements include sparsely vegetated shoreline beaches, peninsulas, islands composed of sand, gravel, or shale, and their interface with the water (USFWS 2014a).

**Designated Critical Habitat Surrounding and within the Project Area:** The physical and biological features that are essential to the conservation of the species, also known as the constituent elements, of piping plover designated critical habitat are not present within the Project area or action area. The Missouri River is the nearest Designated Critical Habitat and is 5 miles south of the Project area.

**Direct and Indirect Effects**: No direct or indirect impacts are anticipated since the Project is over 5 miles from the nearest Designated Critical Habitat,

*Cumulative Effects:* No direct or indirect adverse effects are expected as a result of the Project; therefore, the Project would not contribute to cumulative effects to piping plover designated critical habitat.

**Determination**: The Project would have **no effect** to designated critical habitat for the piping plover.



Likely to Not likely to Beneficial No **Species/Critical** adversely adversely effect Habitat effect affect affect Interior Least Tern X (Sterna antillarum) Pallid Sturgeon X (Scaphirhynchus albus) Whooping Crane X (Grus americana) Dakota Skipper X (Hesperia dacotae) Northern Long-Eared X Bat (Myotis septentrionalis) Piping Plover X (Charadrius melodus) Rufa Red Knot X (Calidris canutus rufa) Piping Plover Designated Critical X Habitat

Table 2. Summary of Determinations to Endangered Species Act Resources

# **Bald and Golden Eagle Protection Act**

Both the bald eagle (*Haliaeetus leucocephalus*) and the golden eagle (*Aquila chrysaetos*) are protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d, as amended). Bald eagle breeding pairs typically nest along major river systems. Potential foraging habitat includes areas near large, perennial water bodies. Golden eagles typically nest on the steepest mountain or butte faces.

On-the-ground surveys for eagle nests were done as part of the on-site field survey within the action area. One active bald eagle nest was present within the survey area in Section 22, T145N, R82W. The nest was in a tall cottonwood tree about 244 feet north of the Project area, and about 500 feet east of a proposed access road. (**Photo 3**). Since construction is planned for early 2022, there is potential for construction to coincide with the bald eagle nesting season. WBI informally discussed how to avoid impacts with the nest with Drew Becker at USFWS on May 21, 2021. The potential options to avoid impacts include:

- Avoiding construction during the breeding season.
- If construction occurs during the breeding season, and if the nest is active during construction, WBI would avoid construction and all construction related activities within 660 feet of the nest. This would be done by setting up a bore 660 feet west of the nest and boring the pipeline, remerging a minimum of 660 feet on the east side of the nest.





**Photo 3.** View of the bald eagle nest present just north of the Project area.

# **Migratory Bird Treaty Act**

Numerous migratory birds pass through or breed and nest from February 1<sup>st</sup> to July 15<sup>th</sup> throughout North Dakota. Migratory birds are protected under the Migratory Bird Treaty Act (MBTA) (916 U.S.C. 703-711) and Executive Order 13186. Migratory ground-nesting birds could use the grassland habitat within the Project area, specifically within the introduced grassland habitat. If construction occurs during the migratory bird breeding season (February 1 to July 15), WBI would either: 1) mow and maintain vegetation within the project disturbance areas prior to and during the breeding season to deter migratory birds from nesting in the project disturbance areas until construction is underway; or 2) conduct a breeding bird survey within 5 days prior to construction activities. If evidence of an active nest is identified, WBI would coordinate with the USFWS to determine actions to protect breeding birds.



# **Conclusion**

The entire Project area is dominated by agricultural or introduced grassland habitat. Impacts to wildlife species are not anticipated due to the minor effects resulting from the Project combined with the existing human developments in the analysis area. Effects of the Project to natural resources are expected to be minor.

If you have any questions on this report, please contact me at <a href="ltoso@bcenv.org">ltoso@bcenv.org</a> or (701) 575-0731.

Luke Toso, Botanist/Wildlife Biologist

<u>July 19, 2021</u> Date



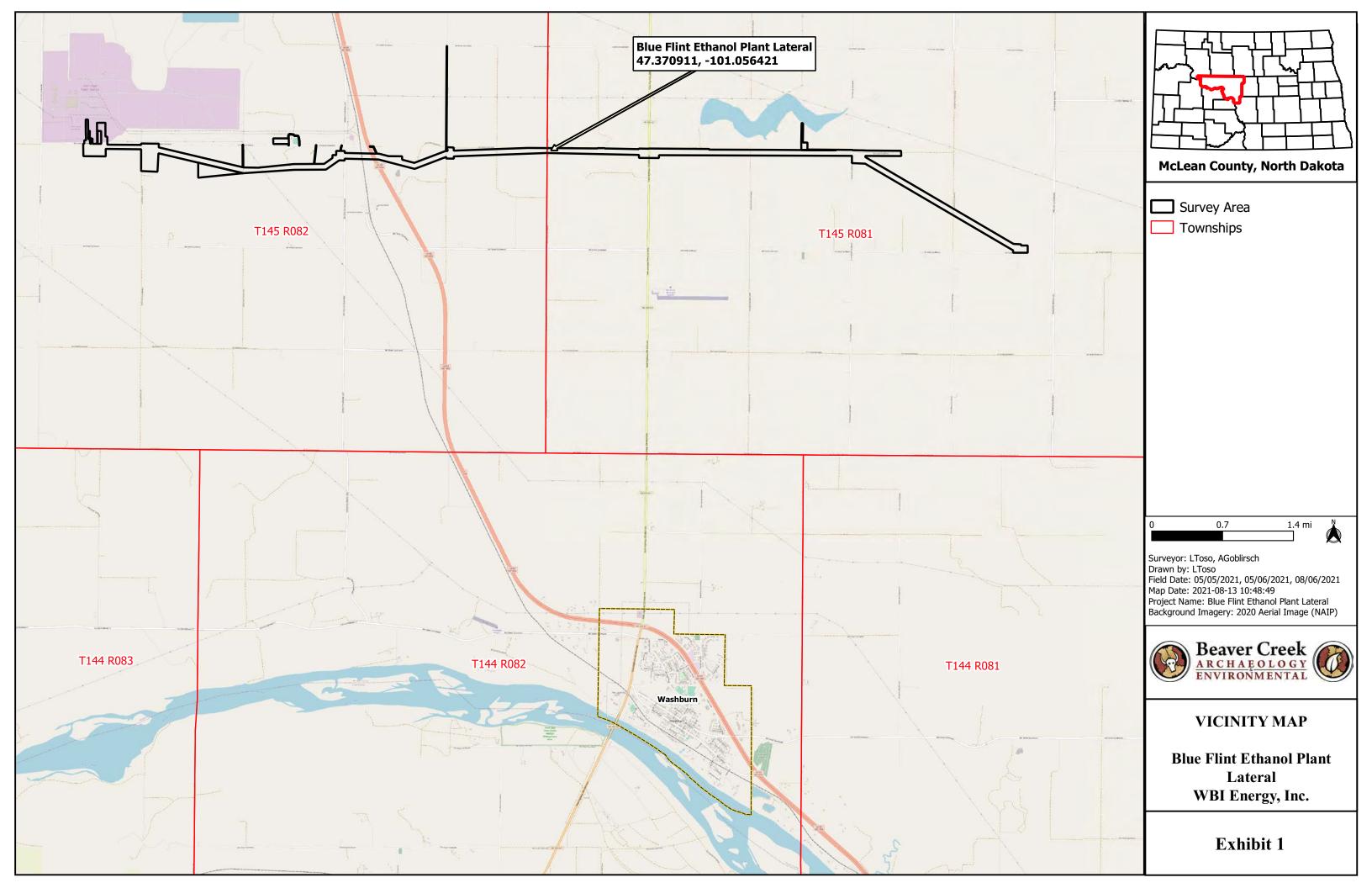
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# **FIGURES**







# Volume II

# Appendix Q Construction Emissions Calculations

## **Line Section 7 Expansion Operational Emissions**

#### **Fugitive Pipeline Emissions**

Equipment	Component	Emission Factor*	Mileage of	Hours of	Fugitive Methane Emissions			Fugiti	ve CO2 Emission	ıs	Total GHGs as CO2 e
<u>Type</u>	<u>Type</u>	(scf/hour/pipeline mileage)	<u>Pipeline</u>	<b>Operation</b>	scf/ hour	kg/hour	tonne/year	scf/ hour	kg/hour	tonne/year	tonne/year
Transmission Pipeline	Protected Steel Pipe	0.47	10	8760	4.58	0.09	0.77	0.05	0.00	0.02	19.3

<sup>\*</sup>Emission factors are based on Table W-1A of 40 CFR 98 Subpart W for protected steel pipeline

**Above Ground Facility Emissions** 

	Component	Emission Factor*	Number of**	Hours of	Fu	gitive Methane Emi	ssions	Fugiti	ve CO2 Emissio	ns	Total GHGs as CO2 e
	Type	(scf/hour/component)	Components	<b>Operation</b>	scf/ hour	kg/hour	tonne/year	scf/ hour	kg/hour	tonne/year	tonne/year
Blue Flint Delivery Station											
	Connector	0.017	52	8760	0.9	0.02	0.14	0.01	0.00	0.00	
	Flanges	0.017	21	8760	0.3	0.01	0.06	0.00	0.00	0.00	
	Valve	0.121	35	8760	4.1	0.08	0.69	0.05	0.00	0.02	
	Open-Ended Line	0.031	0	8760	0.0	0.00	0.00	0.00	0.00	0.00	
	Pressure Relief Valve	0.193	0	8760	0.0	0.00	0.00	0.00	0.00	0.00	
				Total			0.90			0.03	22.48

<sup>\*</sup>Emission factors are based on Table W-1A of 40 CFR 98 Subpart W for component types

97.5 % CH4 average concentration using Subpart W population count method 0.0192 kg/ft^3

1.1 % CO2 average concentration using Subpart W population count method 0.0526  $\,\mathrm{kg/t^{\wedge3}}$ 

FUG Emissions Calculations

 $\underline{\text{Miscellaneous Valves/Seals/Connections/Flanges/Open-Ended Lines}}$ 

Emission factors were obtained from 40 CFR 98 Subpart W Table W-1A for Western U.S. Gas Service Components

Emissions calculated following methods specified in 40 CFR 98.233(r)

Example Calculations:

Notes

Fug. Methane Emissions-Connector:

Emissions Factor: 0.017 scf/hour/component 40 CFR 93 Subpart W Table W-1A

 Calculations:
 (0.017 scf/hour/component) \* (52 Connectors)\*(0.975)
 0.9 scf/hr

 Calculations:
 (0.9 scf/hr)\*(0.0192 kg/scf)
 0.02 kg/hr

 Calculations:
 (0.02 kg/hr) \* (8760 hr/yr) \* (0.001 tonnes/kg)
 0.14 tonne/yr

Fug. CO2 Emissions-Connector:

Emissions Factor: 0.017 scf/hour/component 40 CFR 93 Subpart W Table W-1A

 Calculations:
 (0.017 scf/hour/component) \* (52 Connectors) \* (0.011)
 0.01 scf/hr

 Calculations:
 (0.01 scf/hr) \* (0.0526 kg/scf)
 0.00 kg/hr

 Calculations:
 (0.001 kg/hr) \* (8760 hr/yr) \* (0.001 tonnes/kg)
 0.00 tonne/yr

GHG as CO2e -Pipeline

Global Warming Potential

25 CH4 1 CO2

 Calculations:
 (25\*0.088 kg/hr) + 0.003 kg/hr
 2.20 kg/hr

 Calculations:
 (2.202 kg/hr) \* (8760 hr/yr) \* (0.001 tonnes/kg)
 19.3 tonnes/yr



Project: Line Section 7 Expansion Subject: Construction Emissions

**Table 9A-1 Peak Construction Emissions** 

Project Emission Correct		Pollutant Emissions (Ton/Year)													
Project Emission Sources	CO	Nox	PM 10	PM 2.5	SO2	CO2e <sup>a</sup>	VOC	HAPS							
Off-Road Construction Equipment	4.09	5.27	0.67	-	0.007	913	0.50	0.03							
On-Road Motor Vehicles	0.50	0.26	0.02	0.02	0.002	199	0.07	-							
Construction Activities	-	-	61.25	23.80	-	-	-	-							
Unpaved Vehicle Travel	-	-	13.86	2.03	-	-	-	-							
Total	4.59	5.53	75.81	25.84	0.009	1,111	0.57	0.03							

<sup>&</sup>lt;sup>a</sup> Pollutant emissions calculated in metric tons/ year



Project: Line Section 7 Expansion Subject: Construction Emissions

Task: Construction Equipment and Vehicle Emissions

Table 9A-2: Non-Road Criteria Pollutant Emission Factors<sup>a</sup>

		Engine Power	Emission							Pollutant Em	ission Factor					
Equipment Description	Equipment Type		Factor Tier	BSFC (lb/hp-hr)	VC	C	CC	)	NO	Ox	PI	М	SC	)2	CO	2e
		(hp)	Factor Her		g/hp-hr	lb/hr	g/hp-hr	lb/hr	g/hp-hr	lb/hr	g/hp-hr	lb/hr	g/hp-hr	lb/hr	g/hp-hr	lb/hr
Air Compressor	Other Equipment	120	Tier 3	0.371	0.198	0.052	1.526	0.404	2.662	0.704	0.448	0.119	0.004	0.001	535.7	141.7
Water Pump	Other Equipment	100	Tier 3	0.412	0.198	0.044	4.166	0.918	3.195	0.704	0.000	0.000	0.004	0.001	595.6	131.3
ATV	Recreational Vechicles	20	Tier 3	0.000	0.006	0.000	0.118	0.005	0.001	0.000	0.000	0.000	0.000	0.000	0.5	0.0
Tractors	Tractor, Loaders, Backhoe	75	Tier 3	0.481	0.648	0.107	6.997	1.157	4.770	0.789	0.709	0.117	0.005	0.001	694.6	114.8
Bulldozer	Rubber Tire Dozers	200	Tier 3	0.371	0.198	0.087	1.316	0.580	2.662	1.174	0.306	0.135	0.004	0.002	535.7	236.2
Concrete Mixer Truck	Cement & Mortar Mixers	250	Tier 3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0	0.0
Large Crane	Cranes	350	Tier 3	0.367	0.171	0.132	0.970	0.748	2.560	1.975	0.208	0.161	0.004	0.003	530.5	409.3
Truck mounted Crane	Cranes	250	Tier 3	0.367	0.189	0.104	0.860	0.474	2.560	1.411	0.208	0.115	0.004	0.002	530.4	292.4
Rubber tire Backhoe	Tractor, Loaders, Backhoe	100	Tier 3	0.481	0.432	0.095	6.997	1.543	3.717	0.819	0.645	0.142	0.005	0.001	695.3	153.3
Fork Lift	Skid Steer Loader	120	Tier 3	0.433	0.432	0.114	2.564	0.678	2.662	0.704	0.715	0.189	0.004	0.001	625.3	165.4
Front End Loaders A	Tractor, Loaders, Backhoe	200	Tier 3	0.433	0.432	0.190	2.211	0.975	3.098	1.366	0.488	0.215	0.004	0.002	625.3	275.7
Generators	Other Equipment	250	Tier 3	0.371	0.198	0.109	1.316	0.726	2.662	1.467	0.306	0.168	0.004	0.002	535.7	295.3
Grader	Graders	200	Tier 3	0.371	0.198	0.087	3.897	1.718	2.662	1.174	0.306	0.135	0.004	0.002	535.7	236.2
Guided Bore Machine	Bore/Drill Rigs	225	Tier 3	0.367	0.189	0.094	0.860	0.427	2.560	1.270	0.208	0.103	0.004	0.002	530.4	263.1
Sideboom	Cranes	125	Tier 3	0.367	0.189	0.052	0.998	0.275	2.560	0.705	0.305	0.084	0.004	0.001	530.4	146.2
skid steer loader	Skid Steer Loader	50	Tier 3	0.481	0.656	0.072	4.533	0.500	5.035	0.555	0.869	0.096	0.005	0.001	694.5	76.6
Trackhoe A	Excavators	250	Tier 3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0	0.0
Trackhoe B	Excavators	200	Tier 3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0	0.0
Welding Rig	Welders	25	Tier 3	0.481	1.030	0.057	6.392	0.352	5.501	0.303	0.881	0.049	0.005	0.000	693.3	38.2

Table 9A-3: Non-Road HAP Emission Factors<sup>b</sup>

							rabi	e 9A-3: Non-	Road HAP Er										
		Engine Power	BSFC (lb/hp-								Pollutant Emiss								
Equipment Description	Equipment Type	(hp)	hr)	Benze	ne	To	luene	Xy	rlene	Proj	oylene	Forma	ldehyde	Acetal	dehyde	Acro	olein	Tota	I PAH
		(np)	,	lb/MMBtu	lb/hp-hr	lb/MMBtu	lb/hp-hr	lb/MMBtu	lb/hp-hr	lb/MMBtu	lb/hp-hr	lb/MMBtu	lb/hp-hr	lb/MMBtu	lb/hp-hr	lb/MMBtu	lb/hp-hr	lb/MMBtu	lb/hp-hr
Air Compressor	Other Equipment	120	0.371	7.79E-04	5.57E-06	2.81E-04	2.01E-06	1.93E-04	1.38E-06	2.79E-03	2.00E-05	7.89E-05	5.64E-07	2.52E-05	1.80E-07	7.88E-06	5.64E-08	2.12E-04	1.52E-06
Water Pump	Other Equipment	100	0.412	7.79E-04	6.20E-06	2.81E-04	2.23E-06	1.93E-04	1.53E-06	2.79E-03	2.22E-05	7.89E-05	6.28E-07	2.52E-05	2.00E-07	7.88E-06	6.27E-08	2.12E-04	1.69E-06
ATV	Recreational Vechicles	20	0.000	7.79E-04	5.23E-09	2.81E-04	1.89E-09	1.93E-04	1.30E-09	2.79E-03	1.87E-08	7.89E-05	5.30E-10	2.52E-05	1.69E-10	7.88E-06	5.29E-11	2.12E-04	1.42E-09
Tractors	Tractor, Loaders, Backhoe	75	0.481	7.79E-04	7.24E-06	2.81E-04	2.61E-06	1.93E-04	1.79E-06	2.79E-03	2.59E-05	7.89E-05	7.33E-07	2.52E-05	2.34E-07	7.88E-06	7.32E-08	2.12E-04	1.97E-06
Bulldozer	Rubber Tire Dozers	200	0.371	7.79E-04	5.57E-06	2.81E-04	2.01E-06	1.93E-04	1.38E-06	2.79E-03	2.00E-05	7.89E-05	5.64E-07	2.52E-05	1.80E-07	7.88E-06	5.64E-08	2.12E-04	1.52E-06
Concrete Mixer Truck	Cement & Mortar Mixers	250	0.000	7.79E-04	0.00E+00	2.81E-04	0.00E+00	1.93E-04	0.00E+00	2.79E-03	0.00E+00	7.89E-05	0.00E+00	2.52E-05	0.00E+00	7.88E-06	0.00E+00	2.12E-04	0.00E+00
Large Crane	Cranes	350	0.367	7.79E-04	5.52E-06	2.81E-04	1.99E-06	1.93E-04	1.37E-06	2.79E-03	1.98E-05	7.89E-05	5.59E-07	2.52E-05	1.78E-07	7.88E-06	5.58E-08	2.12E-04	1.50E-06
Truck mounted Crane	Cranes	250	0.367	7.79E-04	5.52E-06	2.81E-04	1.99E-06	1.93E-04	1.37E-06	2.79E-03	1.98E-05	7.89E-05	5.59E-07	2.52E-05	1.78E-07	7.88E-06	5.58E-08	2.12E-04	1.50E-06
Rubber tire Backhoe	Tractor, Loaders, Backhoe	100	0.481	7.79E-04	7.24E-06	2.81E-04	2.61E-06	1.93E-04	1.79E-06	2.79E-03	2.59E-05	7.89E-05	7.33E-07	2.52E-05	2.34E-07	7.88E-06	7.32E-08	2.12E-04	1.97E-06
Fork Lift	Skid Steer Loader	120	0.433	7.79E-04	6.51E-06	2.81E-04	2.35E-06	1.93E-04	1.61E-06	2.79E-03	2.33E-05	7.89E-05	6.59E-07	2.52E-05	2.11E-07	7.88E-06	6.59E-08	2.12E-04	1.77E-06
Front End Loaders A	Tractor, Loaders, Backhoe	200	0.433	7.79E-04	6.51E-06	2.81E-04	2.35E-06	1.93E-04	1.61E-06	2.79E-03	2.33E-05	7.89E-05	6.59E-07	2.52E-05	2.11E-07	7.88E-06	6.59E-08	2.12E-04	1.77E-06
Generators	Other Equipment	250	0.371	7.79E-04	5.57E-06	2.81E-04	2.01E-06	1.93E-04	1.38E-06	2.79E-03	2.00E-05	7.89E-05	5.64E-07	2.52E-05	1.80E-07	7.88E-06	5.64E-08	2.12E-04	1.52E-06
Grader	Graders	200	0.371	7.79E-04	5.57E-06	2.81E-04	2.01E-06	1.93E-04	1.38E-06	2.79E-03	2.00E-05	7.89E-05	5.64E-07	2.52E-05	1.80E-07	7.88E-06	5.64E-08	2.12E-04	1.52E-06
Guided Bore Machine	Bore/Drill Rigs	225	0.367	7.79E-04	5.52E-06	2.81E-04	1.99E-06	1.93E-04	1.37E-06	2.79E-03	1.98E-05	7.89E-05	5.59E-07	2.52E-05	1.78E-07	7.88E-06	5.58E-08	2.12E-04	1.50E-06
Sideboom	Cranes	125	0.367	7.79E-04	5.52E-06	2.81E-04	1.99E-06	1.93E-04	1.37E-06	2.79E-03	1.98E-05	7.89E-05	5.59E-07	2.52E-05	1.78E-07	7.88E-06	5.58E-08	2.12E-04	1.50E-06
skid steer loader	Skid Steer Loader	50	0.481	7.79E-04	7.24E-06	2.81E-04	2.61E-06	1.93E-04	1.79E-06	2.79E-03	2.59E-05	7.89E-05	7.33E-07	2.52E-05	2.34E-07	7.88E-06	7.32E-08	2.12E-04	1.97E-06
Trackhoe A	Excavators	250	0.000	7.79E-04	0.00E+00	2.81E-04	0.00E+00	1.93E-04	0.00E+00	2.79E-03	0.00E+00	7.89E-05	0.00E+00	2.52E-05	0.00E+00	7.88E-06	0.00E+00	2.12E-04	0.00E+00
Trackhoe B	Excavators	200	0.000	7.79E-04	0.00E+00	2.81E-04	0.00E+00	1.93E-04	0.00E+00	2.79E-03	0.00E+00	7.89E-05	0.00E+00	2.52E-05	0.00E+00	7.88E-06	0.00E+00	2.12E-04	0.00E+00
Welding Rig	Welders	25	0.481	7.79E-04	7.24E-06	2.81E-04	2.61E-06	1.93E-04	1.79E-06	2.79E-03	2.59E-05	7.89E-05	7.33E-07	2.52E-05	2.34E-07	7.88E-06	7.32E-08	2.12E-04	1.97E-06
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#### Table 9A-4: On-Road Vehicle Emission Factors<sup>c</sup>

					Pollutant Em	ission Factor	(lb/mile)		
Vehicle Description	Vehicle Type	Scenario Year <sup>d</sup>	co	NOx	PM10	PM2.5	SOx	ROG°	CO2e
1/2 Ton Pickup	Passenger Vehicle	2022	3.59E-03	3.07E-04	9.68E-05	6.41E-05	1.08E-05	4.51E-04	1.11
I Ton Pickup	Passenger Vehicle	2022	3.59E-03	3.07E-04	9.68E-05	6.41E-05	1.08E-05	4.51E-04	1.11
Semi Tractor/Large Trucks	Heavy Duty Diesel Truck	2022	4.44E-03	9.74E-03	5.08E-04	3.83E-04	3.93E-05	8.40E-04	4.20
1/2 Ton Pickup	Passenger Vehicle	2022	3.59E-03	3.07E-04	9.68E-05	6.41E-05	1.08E-05	4.51E-04	1.11
I Ton Pickup	Passenger Vehicle	2022	3.59E-03	3.07E-04	9.68E-05	6.41E-05	1.08E-05	4.51E-04	1.11
Semi Tractor/Large Trucks	Heavy Duty Diesel Truck	2022	4.44E-03	9.74E-03	5.08E-04	3.83E-04	3.93E-05	8.40E-04	4.20

- <sup>a</sup> Emission Factors calculated using methods outlined in EPA document Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling-Compression-Ignition and Exhaust Emission Factors for Nonroad Engine Modeling Spark Ignition
- <sup>b</sup> Emission Factors obtained from AP-42 Section 3.3 Gasoline and Diesel Industrial Engines Table 3.4-3 and 3.4-4
  <sup>c</sup> Emission Factors obtained from South Coast Air Quality Management District (SCAOMD) EMFAC2007 model run for on-road vehicles
- <sup>d</sup> Scenario Year determined based on the year of project commencement
- <sup>o</sup> Reactive Organic Compounds (ROG) is equivalent to Volatile Organic Compounds (VOC)



Project: Line Section 7 Expansion
Subject: Construction Emissions
Task: Construction Activities PM

Table 9A-5: Nonroad Criteria Pollutant Emission Calculations

				,		Nonroad C	riteria Polluta	nt Emission	Calculations								
		Number of	Weeks of	Hours of	Project							Emissions					
Equipment Description	Engine Power (hp)	Equipment	Operation	Operation per	Operating		/OC		СО		NOx		PM		302		CO2e
		Equipment	орегиион	Week	Hours	lb/day	tons	lb/day	tons	lb/day	tons	lb/day	tons	lb/day	tons	kg/day	metric tons
Air Compressor	Other Equipment	2	4	20	160	0.076	0.004	0.587	0.032	1.024	0.056	0.172	0.009	0.0014	0.000	93.5	10.3
Water Pump	Other Equipment	1	2	40	80	0.032	0.002	0.668	0.037	0.512	0.028	0.000	0.000	0.0006	0.000	43.3	4.8
ATV	Recreational Vechicles	3	12	18.0	648	0.001	0.000	0.031	0.002	0.000	0.000	0.000	0.000	0.0000	0.000	0.1	0.0
Tractors	Tractor, Loaders, Backhoe	2	4	50.0	400	0.389	0.021	4.207	0.231	2.868	0.158	0.426	0.023	0.0028	0.000	189.4	20.8
Bulldozer	Rubber Tire Dozers	2	4	50	400	0.317	0.017	2.111	0.116	4.269	0.235	0.490	0.027	0.0058	0.000	389.6	42.9
Concrete Mixer Truck	Cement & Mortar Mixers	1	2	10	20	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0000	0.000	0.0	0.0
Large Crane	Cranes	1	1	40	40	0.048	0.003	0.272	0.015	0.718	0.040	0.058	0.003	0.0010	0.000	67.5	7.4
Truck mounted Crane	Cranes	1	2	40.00	80	0.076	0.004	0.345	0.019	1.026	0.056	0.083	0.005	0.0014	0.000	96.4	10.6
Rubber tire Backhoe	Tractor, Loaders, Backhoe	2	10	40.00	800	0.692	0.038	11.219	0.617	5.960	0.328	1.034	0.057	0.0075	0.000	505.6	55.6
Fork Lift	Skid Steer Loader	1	8	10.00	80	0.083	0.005	0.493	0.027	0.512	0.028	0.138	0.008	0.0008	0.000	54.6	6.0
Front End Loaders A	Tractor, Loaders, Backhoe	1	4	40.00	160	0.277	0.015	1.418	0.078	1.987	0.109	0.313	0.017	0.0027	0.000	181.9	20.0
Generators	Other Equipment	2	12	60.00	1440	1.428	0.079	9.498	0.522	19.209	1.057	2.205	0.121	0.0261	0.001	1753.3	192.9
Grader	Graders	2	10	50.00	1000	0.794	0.044	15.622	0.859	10.672	0.587	1.225	0.067	0.0145	0.001	974.0	107.1
Guided Bore Machine	Bore/Drill Rigs	1	5	50.00	250	0.213	0.012	0.970	0.053	2.886	0.159	0.235	0.013	0.0040	0.000	271.2	29.8
Sideboom	Cranes	8	12	50.00	4800	2.267	0.125	11.996	0.660	30.784	1.693	3.669	0.202	0.0430	0.002	2893.3	318.3
skid steer loader	Skid Steer Loader	2	12	20.00	480	0.316	0.017	2.180	0.120	2.422	0.133	0.418	0.023	0.0023	0.000	151.5	16.7
Trackhoe A	Excavators	3	12	60.00	2160	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0000	0.000	0.0	0.0
Trackhoe B	Excavators	2	16	60.00	1920	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0000	0.000	0.0	0.0
Welding Rig	Welders	10	10	40.00	4000	2.064	0.114	12.811	0.705	11.025	0.606	1.765	0.097	0.0094	0.001	630.3	69.3
Total Emissions	1					9.074	0.499	74,428	4.094	95,875	5.273	12,231	0.673	0.123	0.007	8295.7	912.5

Table 9A-6: Nonroad Emission HAP Emission Calculations

							I able 3A-0	. Nonioau E	mission HAP	LIIIISSIUII Ga	iculations										
		Number of	Weeks of	Hours of	Project								Pollutant E								
Equipment Description	Engine Power (hp)	Equipment	Operation	Operation per	Operating		nzene		luene		lene		oylene		ldehyde		ldehyde		olein	Total	
		Equipment	Operation	Week	Hours	lb/day	tons	lb/day	tons	lb/day	tons	lb/day	tons	lb/day	tons	lb/day	tons	lb/day	tons	lb/day	tons
Air Compressor	Other Equipment	2	4	20	160	0.016	0.000	0.006	0.000	0.004	0.000	0.057	0.000	0.002	0.000	0.001	0.000	0.000	0.000	0.004	0.000
Water Pump	Other Equipment	1	2	40	80	0.015	0.000	0.005	0.000	0.004	0.000	0.053	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.004	0.000
ATV	Recreational Vechicles	3	12	18.0	648	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Tractors	Tractor, Loaders, Backhoe	2	4	50.0	400	0.013	0.000	0.005	0.000	0.003	0.000	0.047	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.004	0.000
Bulldozer	Rubber Tire Dozers	2	4	50	400	0.027	0.000	0.010	0.000	0.007	0.000	0.096	0.001	0.003	0.000	0.001	0.000	0.000	0.000	0.007	0.000
Concrete Mixer Truck	Cement & Mortar Mixers	1	2	10	20	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Large Crane	Cranes	1	1	40	40	0.046	0.000	0.017	0.000	0.011	0.000	0.166	0.000	0.005	0.000	0.001	0.000	0.000	0.000	0.013	0.000
Truck mounted Crane	Cranes	1	2	40.00	80	0.033	0.000	0.012	0.000	0.008	0.000	0.119	0.000	0.003	0.000	0.001	0.000	0.000	0.000	0.009	0.000
Rubber tire Backhoe	Tractor, Loaders, Backhoe	2	10	40.00	800	0.017	0.000	0.006	0.000	0.004	0.000	0.062	0.001	0.002	0.000	0.001	0.000	0.000	0.000	0.005	0.000
Fork Lift	Skid Steer Loader	1	8	10.00	80	0.019	0.000	0.007	0.000	0.005	0.000	0.067	0.000	0.002	0.000	0.001	0.000	0.000	0.000	0.005	0.000
Front End Loaders A	Tractor, Loaders, Backhoe	1	4	40.00	160	0.031	0.000	0.011	0.000	800.0	0.000	0.112	0.000	0.003	0.000	0.001	0.000	0.000	0.000	0.009	0.000
Generators	Other Equipment	2	12	60.00	1440	0.033	0.001	0.012	0.000	800.0	0.000	0.120	0.004	0.003	0.000	0.001	0.000	0.000	0.000	0.009	0.000
Grader	Graders	2	10	50.00	1000	0.027	0.001	0.010	0.000	0.007	0.000	0.096	0.002	0.003	0.000	0.001	0.000	0.000	0.000	0.007	0.000
Guided Bore Machine	Bore/Drill Rigs	1	5	50.00	250	0.030	0.000	0.011	0.000	0.007	0.000	0.107	0.001	0.003	0.000	0.001	0.000	0.000	0.000	0.008	0.000
Sideboom	Cranes	8	12	50.00	4800	0.017	0.002	0.006	0.001	0.004	0.000	0.059	0.006	0.002	0.000	0.001	0.000	0.000	0.000	0.005	0.000
skid steer loader	Skid Steer Loader	2	12	20.00	480	0.009	0.000	0.003	0.000	0.002	0.000	0.031	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.002	0.000
Trackhoe A	Excavators	3	12	60.00	2160	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Trackhoe B	Excavators	2	16	60.00	1920	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Welding Rig	Welders	10	10	40.00	4000	0.004	0.000	0.002	0.000	0.001	0.000	0.016	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000
Total Emissions						0.337	0.005	0.122	0.002	0.084	0.001	1.207	0.017	0.034	0.000	0.011	0.000	0.003	0.000	0.092	0.001

#### Table 9A-7: On-Road Vehicle Emissions Calculations

												Pollutan	t Emissions						
Vehicle Description	Vehicle Type	Scenario Year	Number of Vehicles	Avg Miles/Day	Estimated		СО	1	IOX	P	M10	P	M2.5	S	SOX	R	OG		O2e
			venicies		Project Days	lb/day	tons	lb/day	tons	lb/day	tons	lb/day	tons	lb/day	tons	lb/day	tons	kg/day	metric tons
1/2 Ton Pickup	Passenger Vehicle	2022	13	40	110	1.865	0.103	0.160	0.009	0.050	0.003	0.033	0.002	0.0056	0.000	0.2347	0.013	262.0	28.8
I Ton Pickup	Passenger Vehicle	2022	12	40	110	1.721	0.095	0.147	0.008	0.046	0.003	0.031	0.002	0.0052	0.000	0.2167	0.012	241.8	26.6
Semi Tractor/Large Trucks	Heavy Duty Diesel Truck	2022	14	15	110	0.933	0.051	2.046	0.113	0.107	0.006	0.080	0.004	0.0083	0.000	0.1764	0.010	399.6	44.0
1/2 Ton Pickup	Passenger Vehicle	2022	13	40	110	1.865	0.103	0.160	0.009	0.050	0.003	0.033	0.002	0.0056	0.000	0.2347	0.013	262.0	28.8
I Ton Pickup	Passenger Vehicle	2022	12	40.00	110.00	1.721	0.095	0.147	0.008	0.046	0.003	0.031	0.002	0.0052	0.000	0.2167	0.012	241.8	26.6
Semi Tractor/Large Trucks	Heavy Duty Diesel Truck	2022	14	15.00	110.00	0.933	0.051	2.046	0.113	0.107	0.006	0.080	0.004	0.0083	0.000	0.1764	0.010	399.6	44.0
Total Emissions						9.039	0.497	4.707	0.259	0.407	0.022	0.289	0.016	0.038	0.002	1.256	0.069	1806.8	198.8

Please note this column is just the average number of hours per day a single piece of equipment will operate for the total amount of construction days and does not represent the number of days the equipment will be onsite

Emission Tier refers to the relative age of construction equipment as shown in the EPA document. Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling-Compression-Ignition



Project: Line Section 7 Expansion
Subject: Construction Emissions

Task: Construction Activities PM Emissions

Estimated Project Duration 110 Days

assume 6 work days per week and 10 hour days

## **Construction Activities**

Above Ground Facility Construction and Storage Yards

Topsoil Clearing, acres	25.95
Topsoil Depth, ft <sup>a</sup>	1.00
Cleared Topsoil Volume cu.ft	1,130,382
Project Sections <sup>b</sup>	1
Estimated Section Duration, days	110
Topsoil Volume/Project Section, cu.ft	1,130,382
Soil Density lb/cu.ft <sup>c</sup>	88.95
Cleared Topsoil Weight, tons	50,272

Pipeline Construction

1 Ipolitic Concadencii	
Pipeline Installation Length, mi	10.00
Width of ROW, ft	75.00
Additional Work Space, acres	22.58
Pipeline Area, acres	113.49
Topsoil Depth, ft	1.00
Cleared Topsoil Volume, cu.ft	4,943,585
Pipe Diameter, ft	0.67
Trench Width, ft	3.00
Trench Depth, ft	6.00
Pipe Volume, cu.ft	18,431
Excavated Spoil Volume cu.ft	950,400
Project Sections	1
Miles Cleared per Section, mi	10.0
Estimated Section Duration, days	110
Topsoil Volume/ Project Section, cu.ft	4,943,585
Excavated Spoil Volume/Project Section, cu.ft	950,400
Average Soil Density lb/cu.ft	88.95
Cleared Topsoil Weight, tons	219,860
Excavated Spoil Weight, tons	42,268

## Access Road Construction

Access Road Length, mi	0.07
Average Access Road width, ft	28
Access Road Area, acres	0.23
Topsoil Depth, ft	1
Access Road Soil Volume cu.ft	10,052
Project Sections	2
Estimated Section Duration, days	10
Topsoil Volume/Project Section, cu.ft	5,026
Average Soil Density lb/cu.ft	88.95
Cleared Topsoil Weight, tons	447

<sup>&</sup>lt;sup>a</sup> Topsoil depth default of 12 inches

<sup>&</sup>lt;sup>b</sup> The number of section a project is split up, more applicable for larger projects being split up into smaller sections

 $<sup>^{\</sup>rm c}\,$  Soil Density obtained from USDA Web Soil Survey for Project area



Project: Line Section 7 Expansion Subject: Construction Emissions

Task: Construction Activities PM Emissions

# Material Grading PM Calculations<sup>a</sup>

E = Ef \* T  $Ef = 2.76 * k * (s^{1.5}/M^{1.4})$ 

#### Inputs

PM 10 Aerodynamic Factor <sup>c</sup>	k <sub>(PM10)</sub>	0.75	
PM 2.5 Aerodynamic Factor <sup>c</sup>	k <sub>(PM2.5)</sub>	0.11	
Moisture Content (%) <sup>e</sup>	M	15.6329	%
Silt Content (%) <sup>e</sup>	s	36.938	%
Material Grading Operation (hours)	Т	1100	hrs
Control Efficiency		50	%

Table 9A-8: Material Grading PM Emissions

		Emission	Factor (lb/hr)	Emission Rate (TPY)		
Construction Emissions		PM 10	PM 2.5	PM 10	PM 2.5	
Material Grading PM		4.949	0.726	2.722	0.399	

# Material Handling PM Calculations<sup>b</sup>

E = Ef \* Q  $Ef = k * 0.0032 * [(U/5)^{1.3}/(M/2)^{1.4}]$ 

Inputs

Inputs			
PM 10 Aerodynamic Factor <sup>d</sup>	k <sub>(PM10)</sub>	0.35	
PM 2.5 Aerodynamic Factor <sup>d</sup>	k <sub>(PM2.5)</sub>	0.053	
Moisture Content (%) <sup>e</sup>	M	15.6329	%
Mean Wind Speed (mph) <sup>f</sup>	U	12.3	mph
Material Volume (cu.ft) 0		7,034,419	cu.ft
Soil Density (lb/cu.ft) 0		89	lb/cu.ft
Quantity of Material Handled (tons)	Q	312,847	tons
Control Efficiency		50	%

Table 9A-9: Handling Grading PM Emissions

	Emission F	actor (lb/ton)	Emission Rate (TPY)		
Construction Emissions	PM 10	PM 2.5	PM 10	PM 2.5	
Material Handling PM	1.014E-04	1.536E-05	0.016	0.002	

<sup>&</sup>lt;sup>a</sup> Equation obtained from Section VI.D Mojave Desert Air Quality Management District (MDAQMD) Emission Inventory Guidance: Mineral Handling and Processing Industries

<sup>&</sup>lt;sup>b</sup> Equation obtained from Section VI.E MDAQMD Emission Inventory Guidance: Mineral Handling and Processing Industries

<sup>&</sup>lt;sup>c</sup> Factors obtained from Table 11.9.1 of AP-42 Section 11.9 Western Surface Coal Mining

<sup>&</sup>lt;sup>d</sup> Factors obtained from Table 13.2.4 of AP-42 Section 13.2.4 Aggregate Handling and Storage Piles

<sup>&</sup>lt;sup>e</sup> Information obtained from the USDA Web Soil Survey

<sup>&</sup>lt;sup>f</sup> Information obtained from Table 11.9.5 of AP-42 Section 11.9 Western Surface Coal Mining



Project: Line Section 7 Expansion Subject: Construction Emissions

Task: Construction Activities PM Emissions

## Wind Erosion from Stockpile Calculations -Above Ground Facility Construction<sup>a</sup>

E = (Ef \*SA \* S \* T)/2000 Ef = J \* 1.7 \* sL/1.5 \* (365-P)/235 \* I/15

## Inputs

PM10 Aerodynamic Factor <sup>a</sup>	J	0.5	
PM2.5 Aerodynamic Factor <sup>a</sup>	J	0.2	
Silt Content (%) <sup>b</sup>	sL	36.938	%
Number of Wet Days (>0.01 in prcip.) <sup>c</sup>	Р	83	days
Percent of Windy Days (>12 mph) <sup>d</sup>	1	22	%
Topsoil Exposed Surface Area <sup>e</sup>	SA	9.50	acres
Project Sections	S	1	
Exposure Duration per Section	Т	110	days
Control Efficiency		50	%

Table 9A-10: Stockpile Wind Erosion PM - Above Ground Facilities

	Emission Facto	r (lb/acre-day)	Emission Rate (TPY)		
Construction Emissions	PM 10	PM 2.5	PM 10	PM 2.5	
Stockpile Wind Erosion	18.59	7.43	9.71	3.88	

<sup>&</sup>lt;sup>9</sup> Equation and Factors obtained from Section IV.G MDAQMD Emission Inventory Guidance: Mineral handling and Processing Industries

<sup>&</sup>lt;sup>b</sup> Information obtained from the USDA Web Soil Survey

<sup>&</sup>lt;sup>c</sup> Information obtained from averaging NOAA Climatography of the United States 1981-2010, Watford City, ND

d Information obtained from North Dakota State University, North Dakota Agricultural Weather Network (NDAWN) foraverage wind speed data for Watford City, ND

<sup>&</sup>lt;sup>e</sup> Estimated surface area assuming a stockpile with shape of a truncated pyramid



Project: Line Section 7 Expansion Subject: Construction Emissions

Task: Construction Activities PM Emissions

## Wind Erosion from Stockpile Calculations -Pipeline Construction

E = (Ef \*SA \* S \* T)/2000 Ef = J \* 1.7 \* sL/1.5 \* (365-P)/235 \* I/15

#### Inputs

PM10 Aerodynamic Factor <sup>a</sup>	J	0.5	
PM2.5 Aerodynamic Factor <sup>a</sup>	J	0.2	
Silt Content (%) <sup>b</sup>	sL	36.938	%
Number of Wet Days (>0.01 in prcip.) <sup>c</sup>	Р	83	days
Percent of Windy Days (>12 mph) <sup>d</sup>	1	22	%
Topsoil Exposed Surface Area <sup>e</sup>	SA <sub>T</sub>	39.69	acres
Spoil Exposed Surface Area	SA <sub>SP</sub>	7.98	acres
Project Sections	S	1	
Exposure Duration per Section	T	110	days
Control Efficiency		50	%

#### Table 9A-11: Stockpile Wind Erosion PM - Pipeline

	Emission Factor	r (lb/acre-day)	Emission Rate (TPY)	
Construction Emissions	PM 10	PM 2.5	PM 10	PM 2.5
Topsoil Wind Erosion	18.59	7.43	40.57	16.23
Spoil Wind Erosion	18.59	7.43	8.16	3.26
Total Stockpile Wind Erosion			48.74	19.49

<sup>&</sup>lt;sup>9</sup> Equation and Factors obtained from Section IV.G MDAQMD Emission Inventory Guidance: Mineral handling and Processing Industries

<sup>&</sup>lt;sup>b</sup> Information obtained from the USDA Web Soil Survey

<sup>&</sup>lt;sup>c</sup> Information obtained from averaging NOAA Climatography of the United States 1981-2010, Watford City, ND

<sup>&</sup>lt;sup>d</sup> Information obtained from North Dakota State University, North Dakota Agricultural Weather Network (NDAWN) foraverage wind speed data for Watford City, ND

<sup>&</sup>lt;sup>e</sup> Estimated surface area assuming one stockpile per project section with shape of a truncated pyramid



Project: Line Section 7 Expansion Subject: Construction Emissions

Task: Construction Activities PM Emissions

## Wind Erosion from Stockpile Calculations -Access Road Construction<sup>a</sup>

E = Ef \* A \* S \* T Ef = J \* 1.7 \* sL/1.5 \* (365-P)/235 \* I/15

#### Inputs

PM10 Aerodynamic Factor <sup>a</sup>	J	0.5	
PM2.5 Aerodynamic Factor <sup>a</sup>	J	0.2	
Silt Content (%) <sup>b</sup>	sL	36.938	%
Number of Wet Days (>0.01 in prcip.) <sup>c</sup>	Р	83	days
Percent of Windy Days (>12 mph) <sup>d</sup>	1	22	%
Topsoil Exposed Surface Area	SA	0.01	acres
Project Sections		2	
Exposure Duration per Section		10	days
Control Efficiency		50	%

Table 9A-10: Stockpile Wind Erosion PM - Compressor Station

	Emission Factor	(lb/acre-day)	Emission Rate (TPY)	
Construction Emissions	PM 10	PM 2.5	PM 10	PM 2.5
Stockpile Wind Erosion	18.59	7.43	0.00	0.00

<sup>&</sup>lt;sup>a</sup> Equation and Factors obtained from Section IV.G MDAQMD Emission Inventory Guidance: Mineral handling and Processing Industries

<sup>&</sup>lt;sup>b</sup> Information obtained from the USDA Web Soil Survey

<sup>&</sup>lt;sup>c</sup> Information obtained from averaging NOAA Climatography of the United States 1981-2010, Watford City, ND

<sup>&</sup>lt;sup>d</sup> Information obtained from weatherunderground.com 2010-2014 average wind speed data for Williston and Minot, ND

<sup>&</sup>lt;sup>e</sup> Estimated surface area assuming a stockpile with shape of a truncated pyramid



Project: Line Section 7 Expansion
Subject: Construction Emissions

Task: Construction Activities PM Emissions

# **Dust Entrainment from Paved Roads Calculation**<sup>a</sup>

E = Ef \* V  $Ef = k * (sL/2)^{0.65} * (W/3)^{1.5}$ 

## Inputs:

PM 10 Aerodynamic Factor <sup>a</sup>	k	0.016	
PM 2.5 Aerodynamic Factor <sup>a</sup>	k	0.004	
Vehicle Miles Traveled (miles):	V	See Table	
Vehicle Weight (tons):	W	See Table	
Silt Loading (g/m²) <sup>b</sup>	sL		
Normal Conditions		0.60	g/m <sup>2</sup>
Wintertime Conditions		2.40	g/m <sup>2</sup>
Percent Wintertime Conditions (%)		0.0	%

## Table 9A-12: Fugitive Dust Calculation by Vehicles on Paved Roads

Table 571 1211 agritto Bact Galcalation by Tolliolog 5111 area 110ade								
Vehicle Description	on Vehicle Type	Number of	Vehicle Weight	VMT <sup>c</sup>	Emission Factor (lb/VMT)		Total Emissions (TPY)	
		Vehicles	(tons)	VIVII	PM 10	PM 2.5	PM 10	PM 2.5
Passenger Vehicle	1/2 Ton Pickup	13	0.5	45,760	0.001	0.000	0.015	0.004
I Ton Pickup	Passenger Vehicle	12	1	42,240	0.001	0.000	0.014	0.003
Semi Tractor/Large Trucks	Heavy Duty Diesel Truck	14	23.25	18,480	0.001	0.000	0.006	0.002
1/2 Ton Pickup	Passenger Vehicle	13	0.5	45,760	0.001	0.000	0.015	0.004
I Ton Pickup	Passenger Vehicle	12	1	42,240	0.001	0.000	0.014	0.003
Semi Tractor/Large Trucks	Heavy Duty Diesel Truck	14	23.25	18,480	0.001	0.000	0.006	0.002
Total				•			0.070	0.017

<sup>&</sup>lt;sup>a</sup> Equation and Factors obtained from Section IV.J MDAQMD Emission Inventory Guidance: Mineral handling and Processing Industries

<sup>&</sup>lt;sup>b</sup> Information obtained from AP-42 Section 13.2.1 Paved Roads Table 13.2.1-2

<sup>&</sup>lt;sup>c</sup> Estimated vehicle miles traveled (VMT) that is on paved roads



Project: Line Section 7 Expansion Subject: Construction Emissions

Task: Construction Activities PM Emissions

# **Dust Entrainment from Unpaved Roads Calculation**<sup>a</sup>

E = Ef \* V Ef (PM10) =  $2.6 * (s/12)^{0.8} * (W/3)^{0.4} * (M/0.2)^{-0.3} * [(365-P)/365]$ Ef (PM 2.5) =  $0.38 * (s/12)^{0.8} * (W/3)^{0.4} * (M/0.2)^{-0.3} * [(365-P)/365]$ 

## Inputs

Vehicle Miles Traveled (miles):	V	See Table 2	
Vehicle Weight (tons):	W	See Table 2	
Unpaved Road Surface		Rural Road (dirt)	
Unpaved Silt Loading (g/m2) <sup>a</sup>	sL	9.00	g/m2
Number of Wet Days (>0.01 in prcip.) <sup>b</sup>	Р	83	days
Unpaved Moisture Content (%) <sup>c</sup>	M	0.50	%
Control Efficiency		50	%

Table 9A-13: Fugitive Dust Calculation by Vehicle on Unpaved Roads

Table 3A-13. I digitive bust Galculation by Vehicle on Onpaved Roads										
Vehicle Description	Vehicle Type	Number of Vehicle Weight Vehicles (tons)	Vehicle Weight	VMT	Emission Factor (lb/VMT)		Total Emissions (TPY)			
			V IVI I	PM 10	PM 2.5	PM 10	PM 2.5			
Passenger Vehicle	1/2 Ton Pickup	13	0.5	11,440	0.296	0.043	1.693	0.247		
I Ton Pickup	Passenger Vehicle	12	1	10,560	0.391	0.057	2.062	0.301		
Semi Tractor/Large Trucks	Heavy Duty Diesel Truck	14	23.25	4,620	1.375	0.201	3.176	0.464		
1/2 Ton Pickup	Passenger Vehicle	13	0.5	11,440	0.296	0.043	1.693	0.247		
I Ton Pickup	Passenger Vehicle	12	1	10,560	0.391	0.057	2.062	0.301		
Semi Tractor/Large Trucks	Heavy Duty Diesel Truck	14	23.25	4,620	1.375	0.201	3.176	0.464		
Total							13.863	2.026		

<sup>&</sup>lt;sup>a</sup> Equation and Factors obtained from Section IV.K MDAQMD Emission Inventory Guidance: Mineral handling and Processing Industries

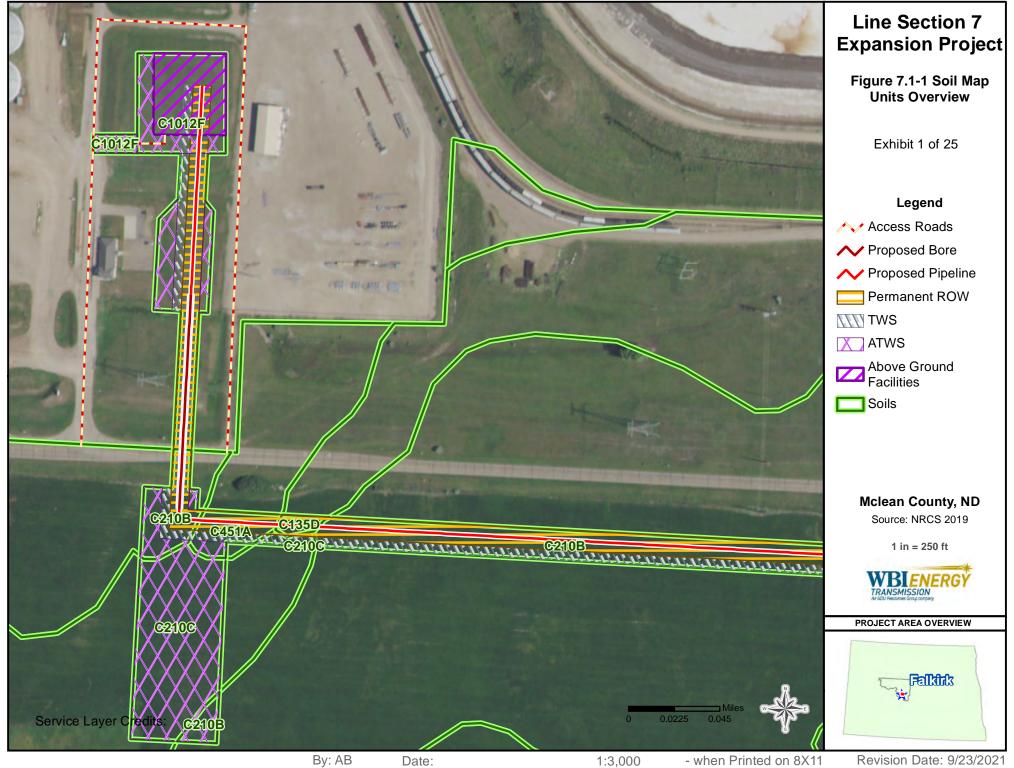
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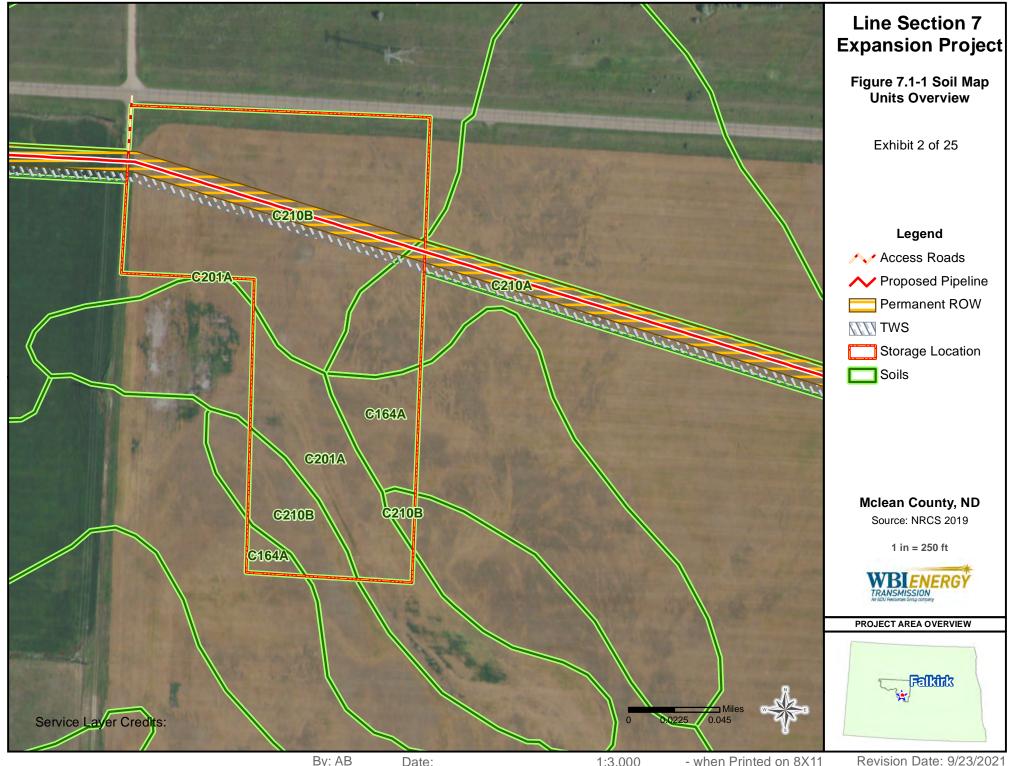
<sup>&</sup>lt;sup>c</sup> Information obtained from AP-42 Section 13.2.2 Unpaved Roads

<sup>&</sup>lt;sup>d</sup> Estimated vehicle miles traveled (VMT) that is on unpaved roads

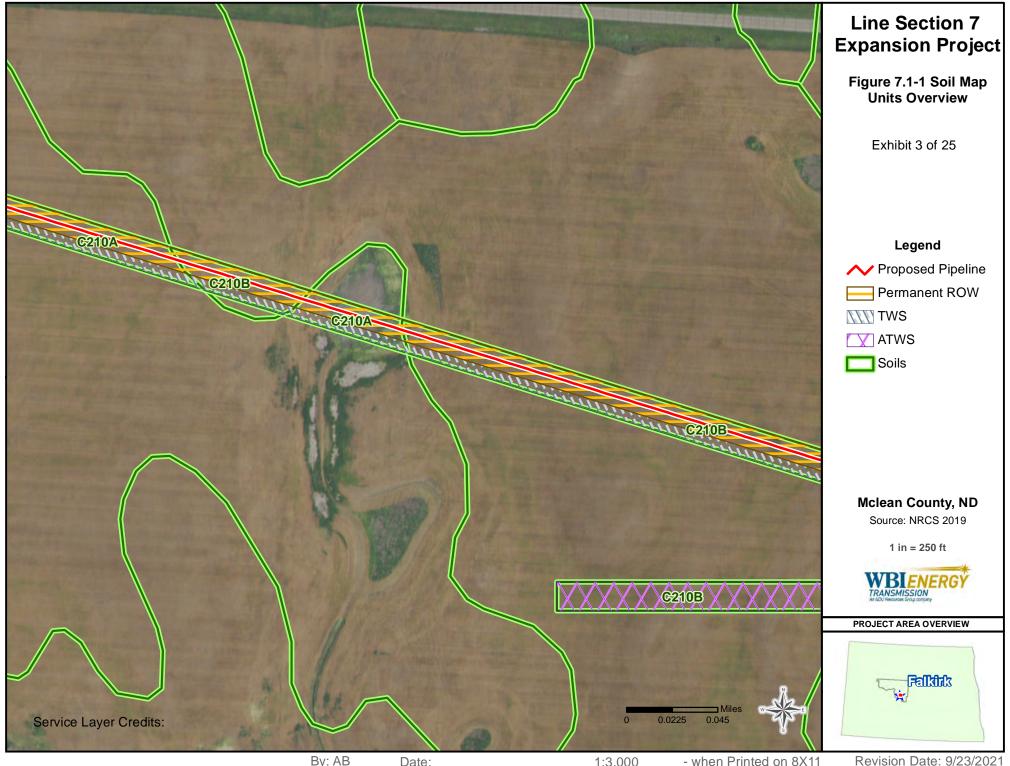
# Volume II

Appendix R
Soil Map Units
Over Exhibits

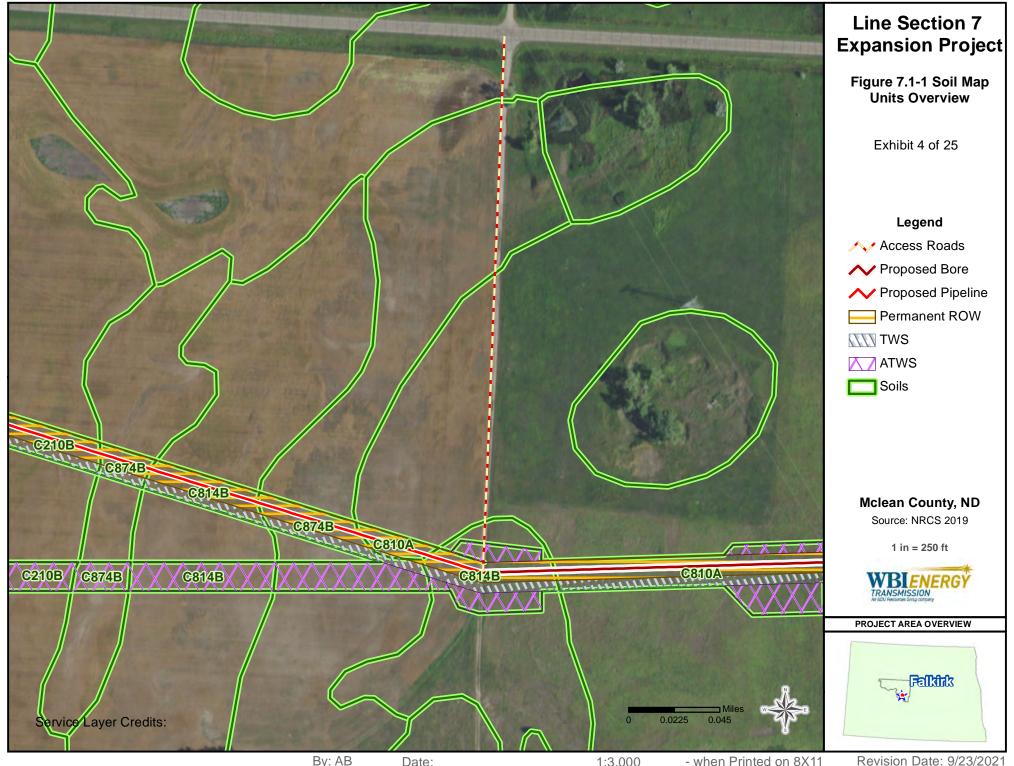




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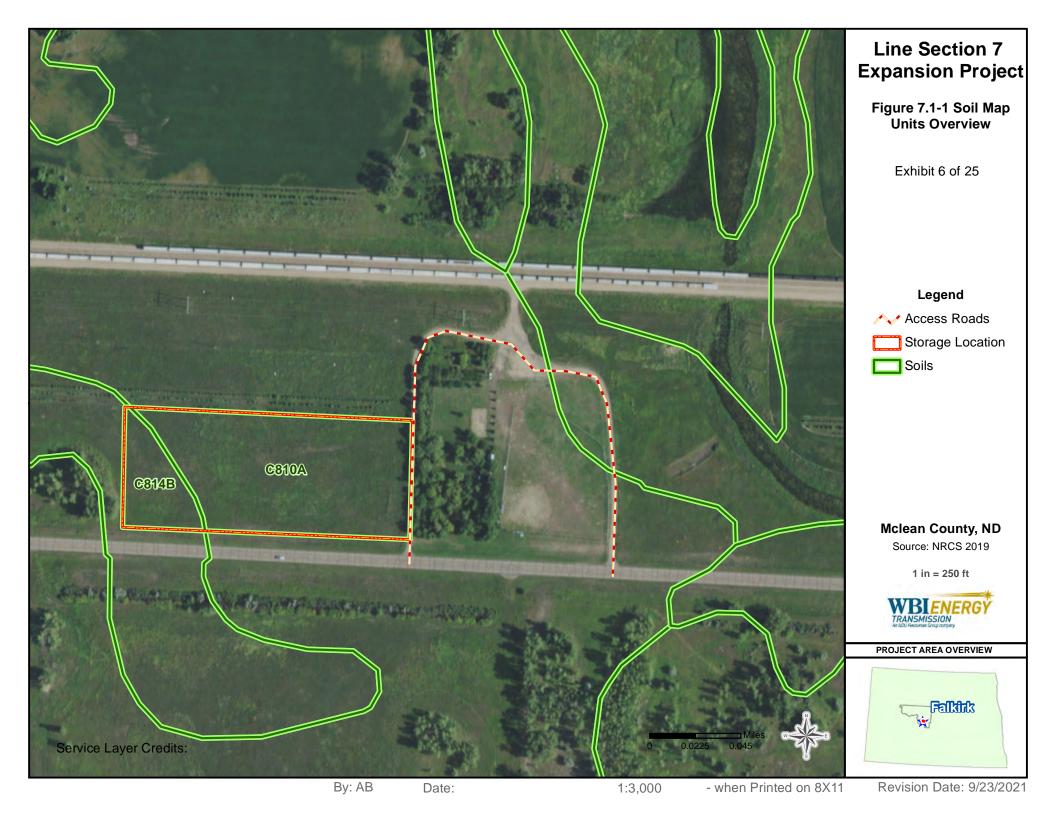


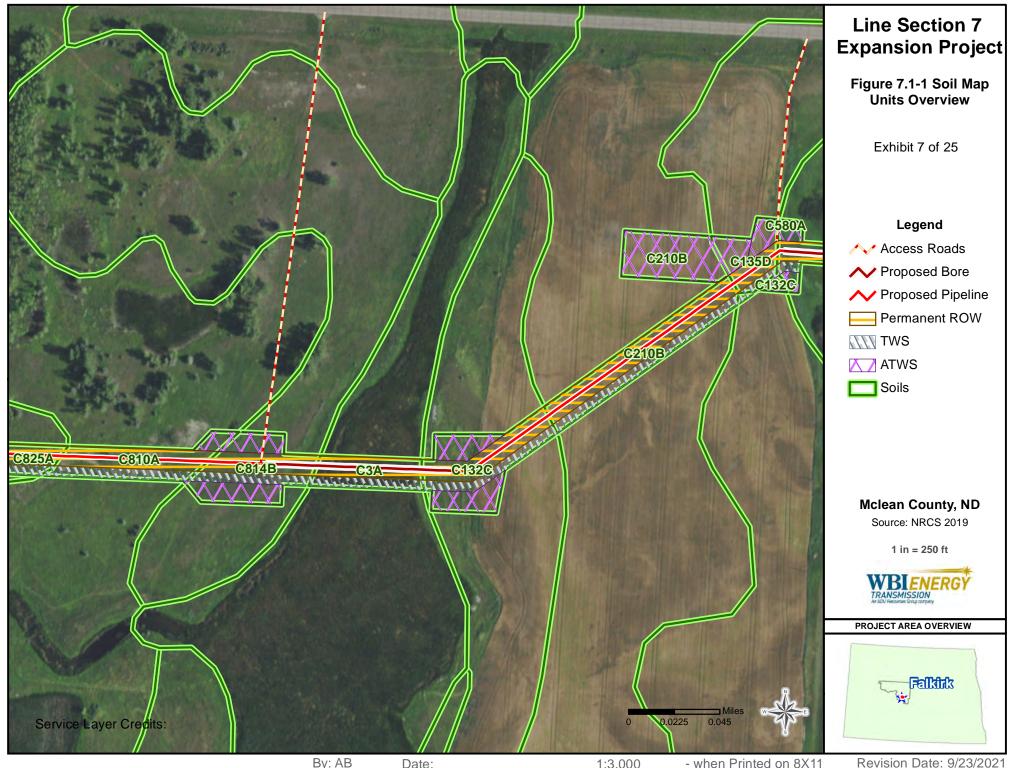
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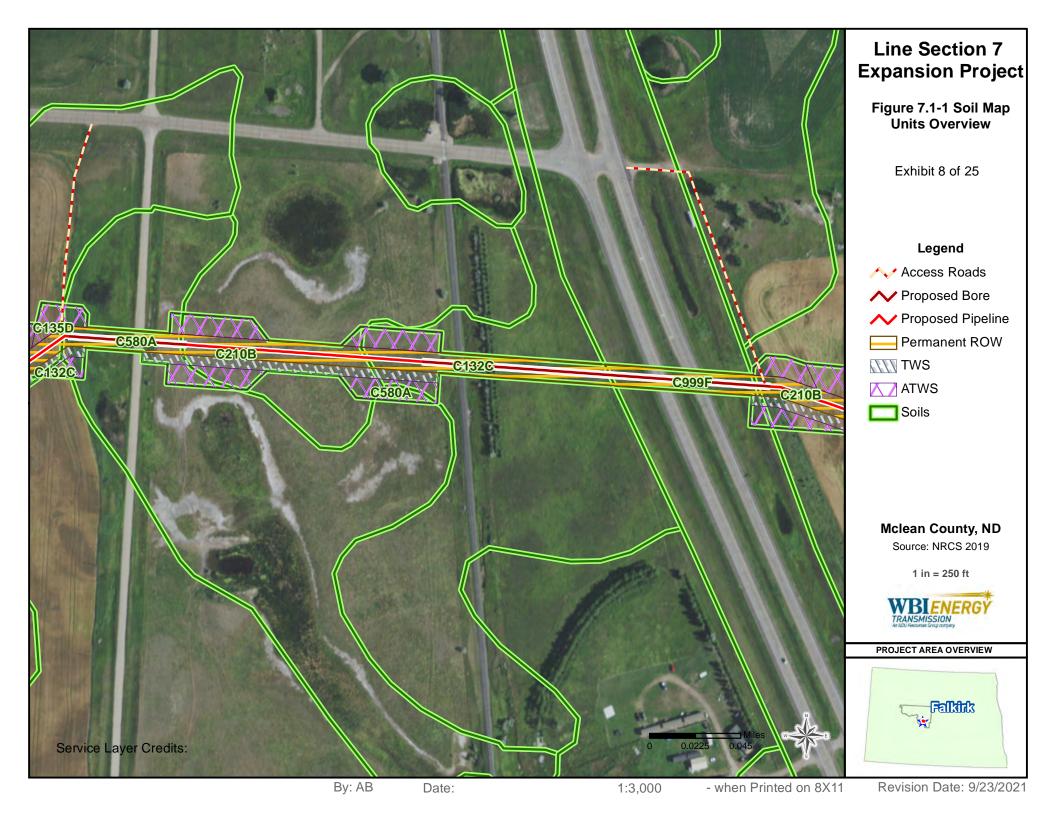
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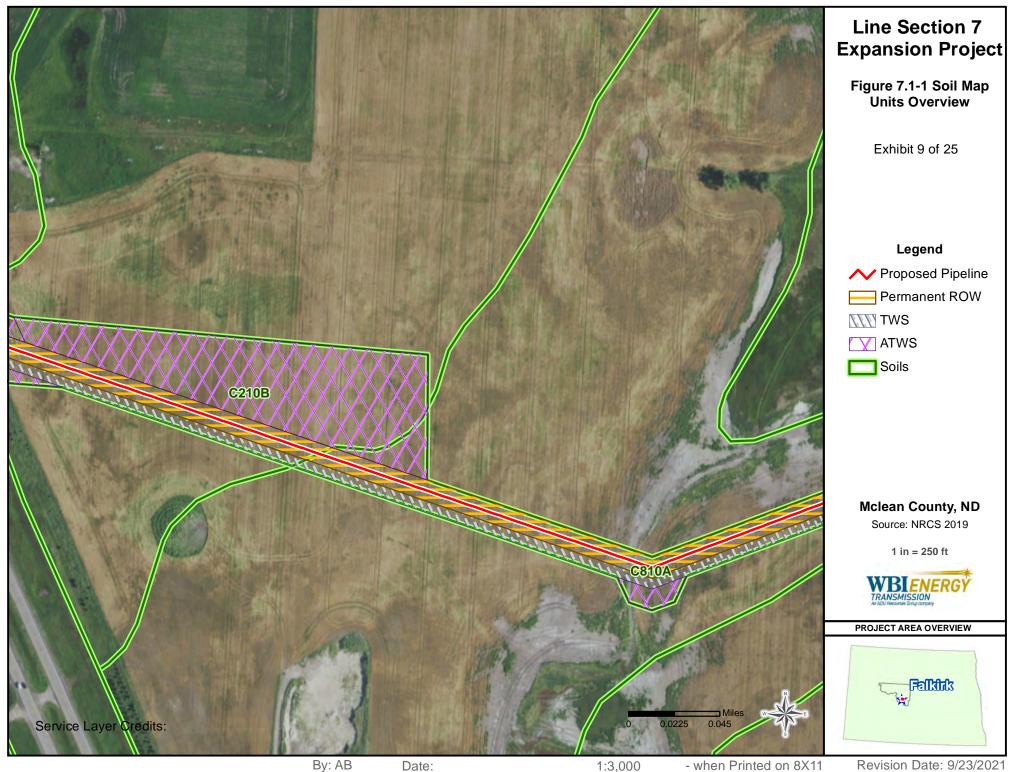




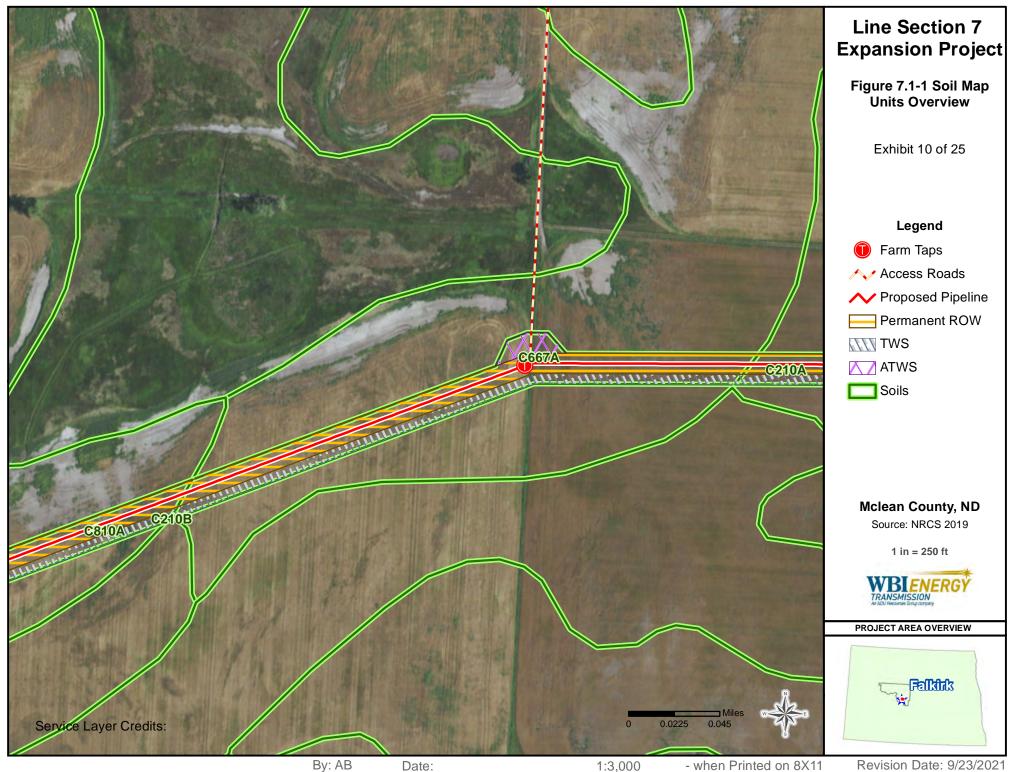


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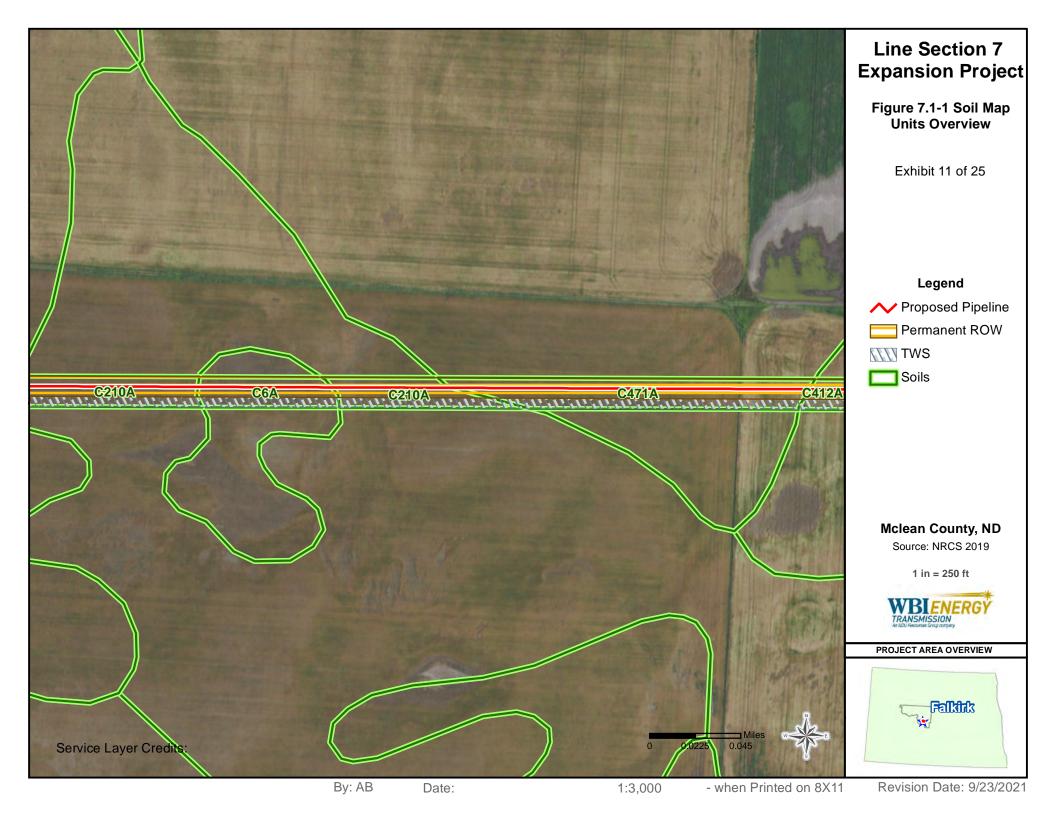


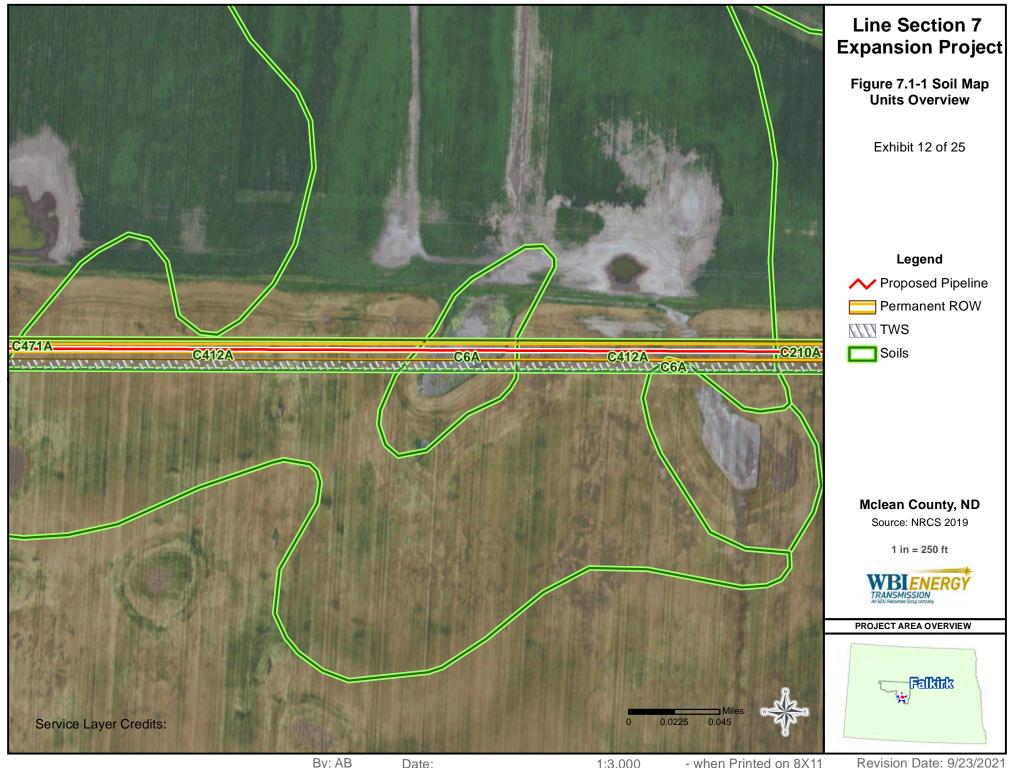


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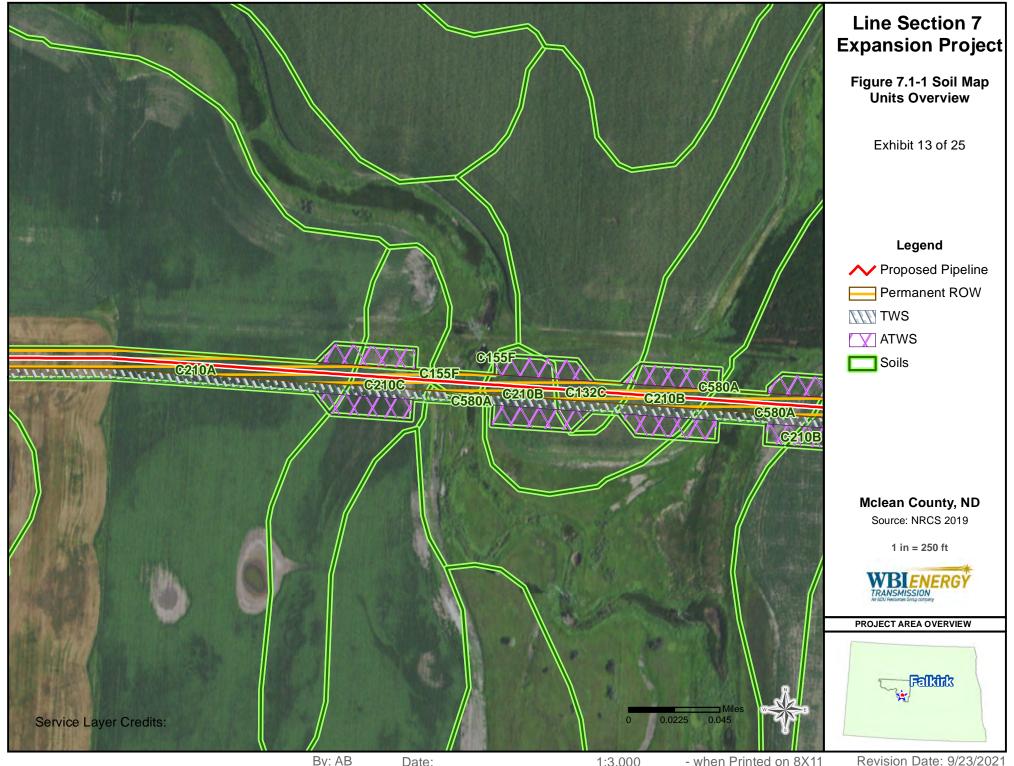


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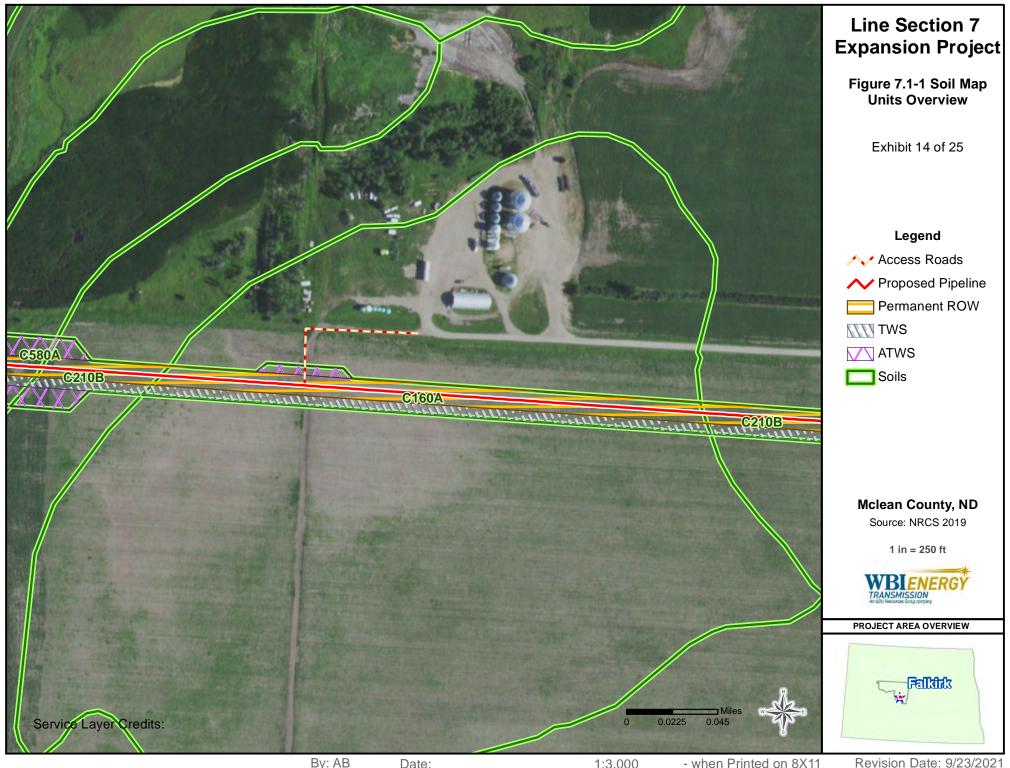




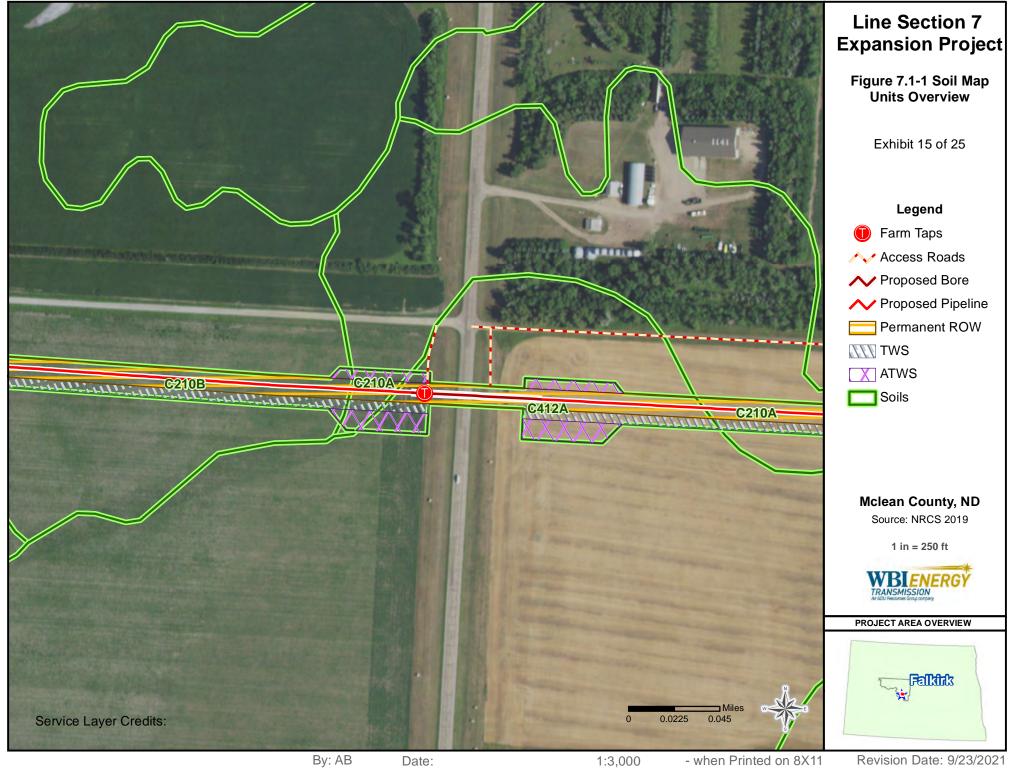
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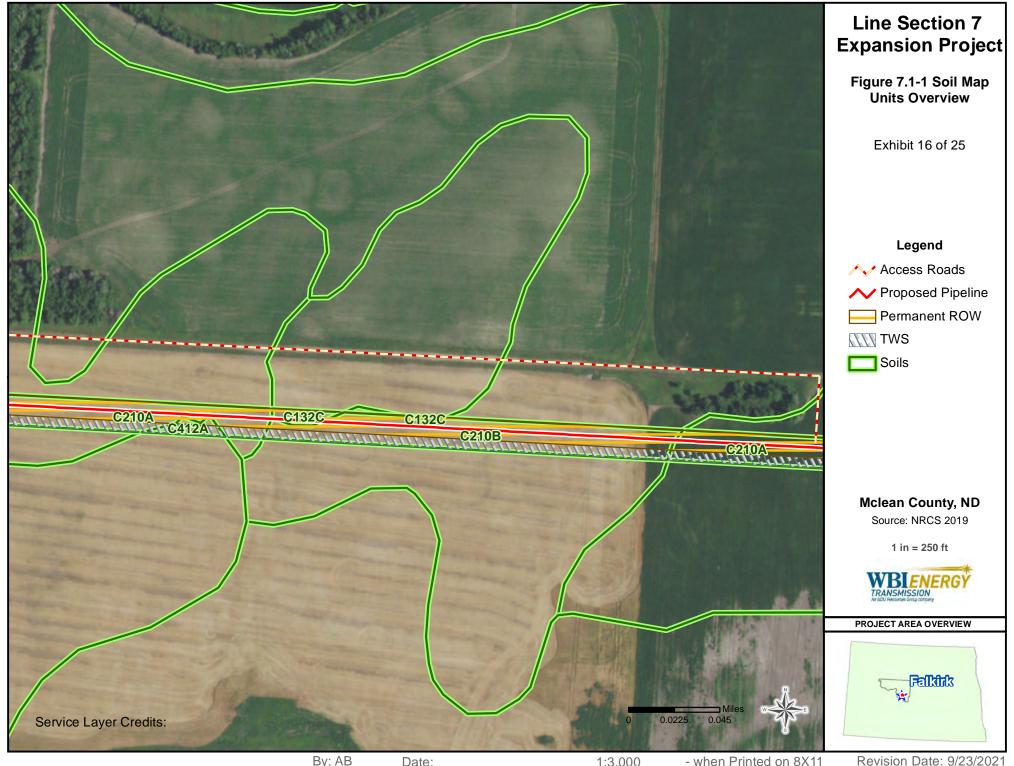


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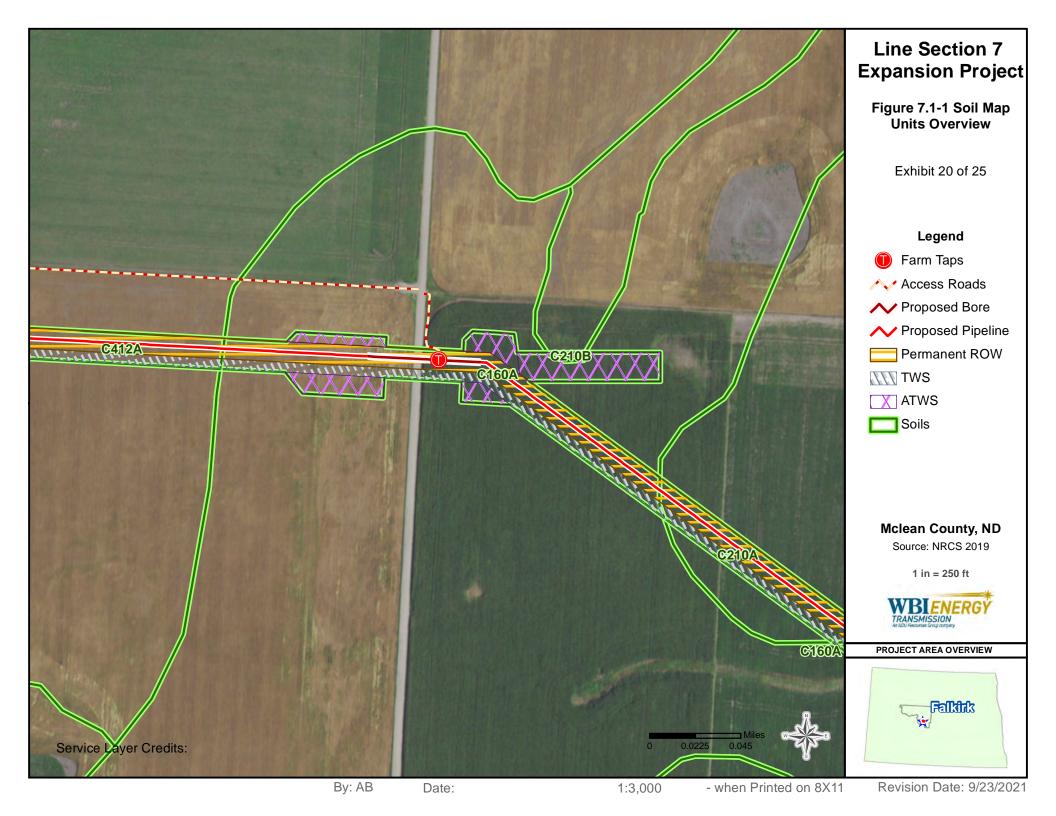
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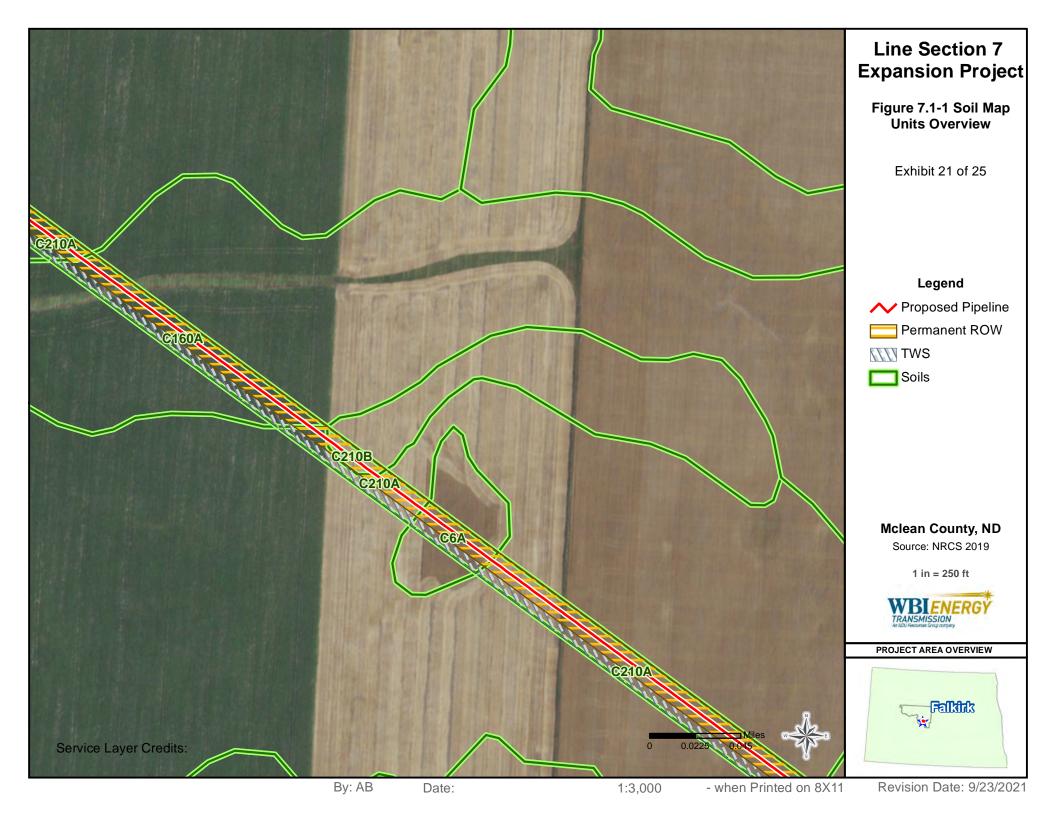


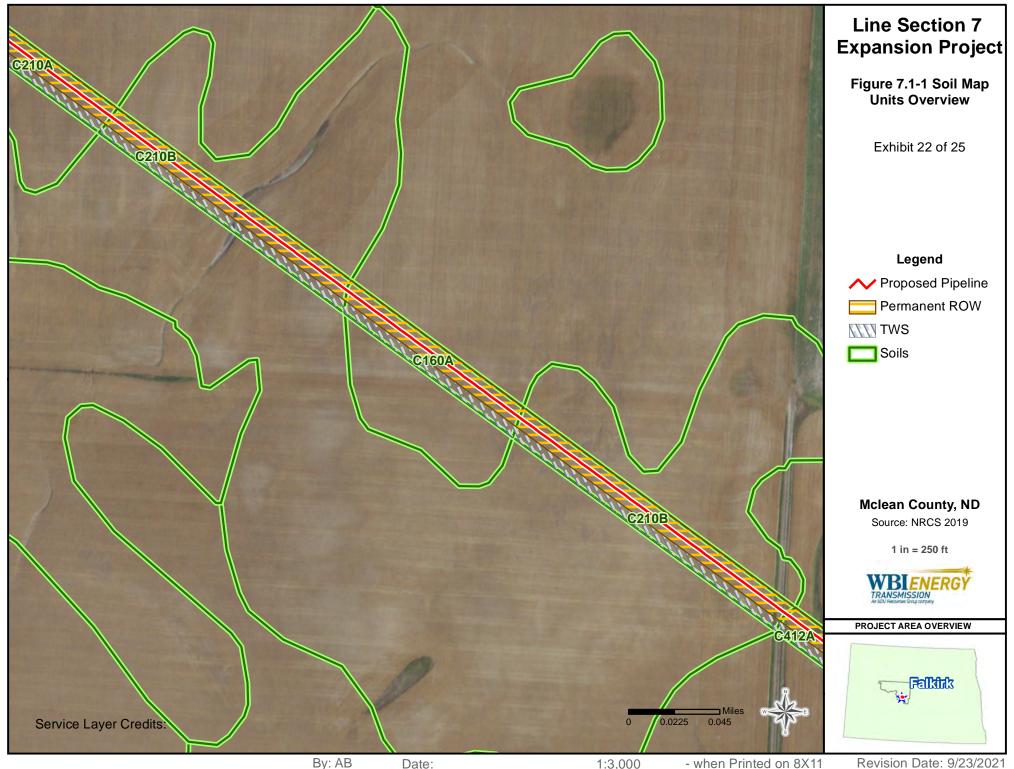
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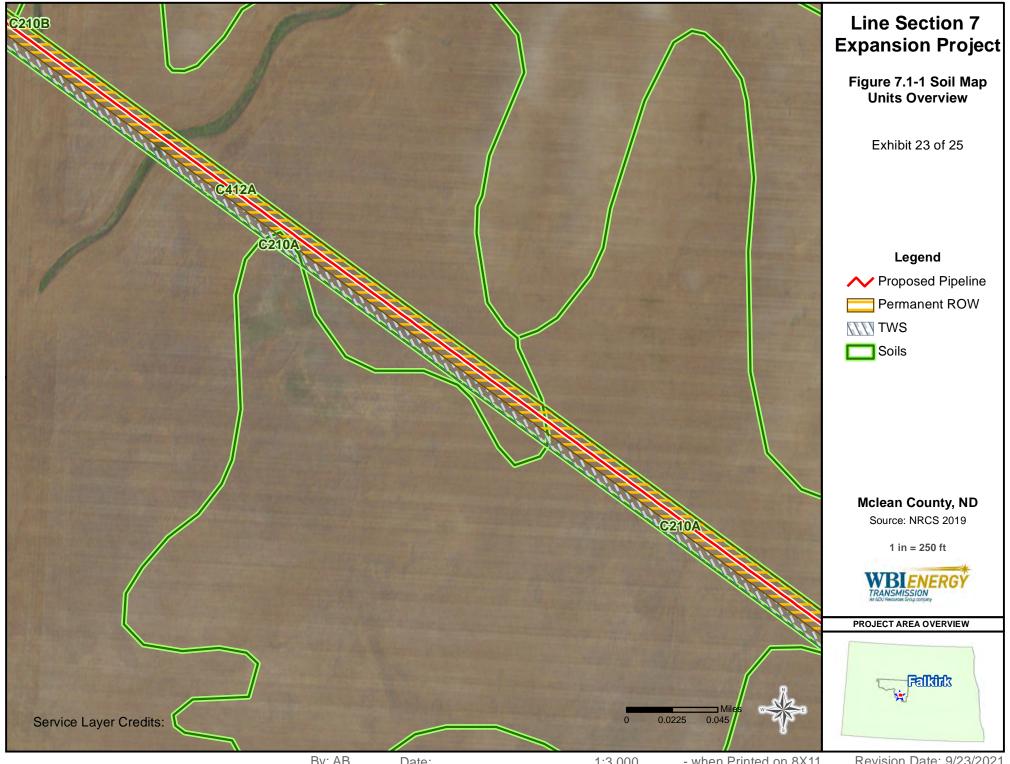




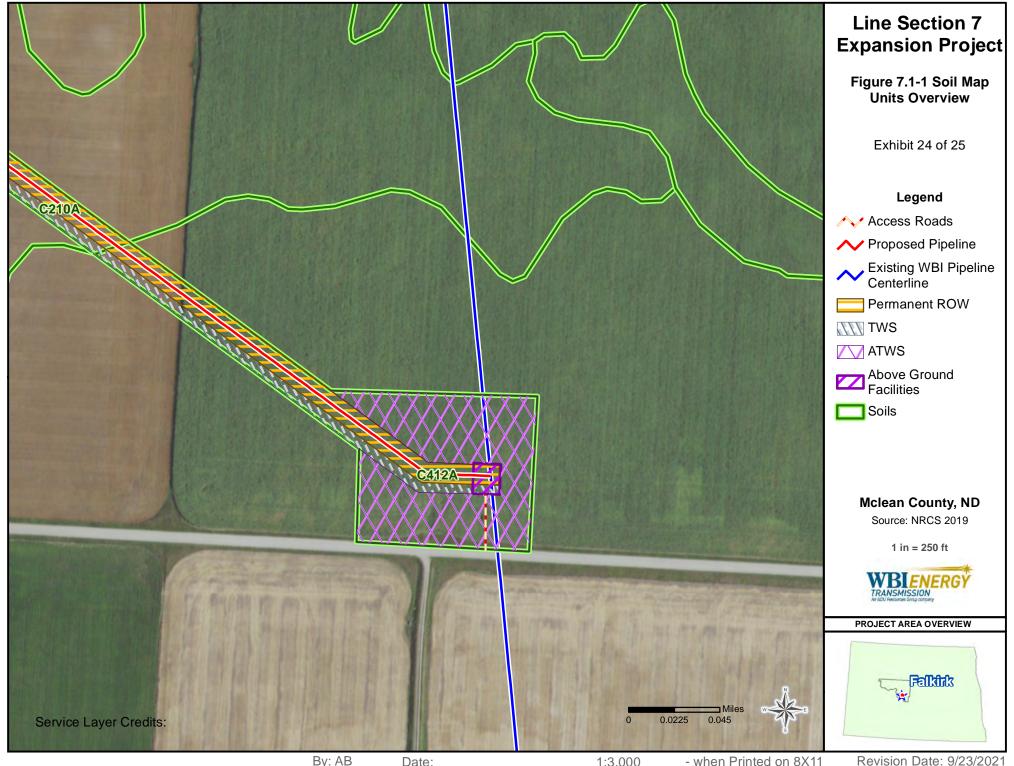




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